

**EFFECT OF COMPUTER-AIDED INSTRUCTION ON STUDENTS'
ACADEMIC PERFORMANCE IN FINANCIAL ACCOUNTING IN
FEDERAL COLLEGES OF EDUCATION, NORHT-WEST GEO-
POLITICAL ZONE, NIGERIA**

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ZARIA**

SEPTEMBER, 2018

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF
POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY,
ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF MASTER OF BUSINESS EDUCATION
DEGREE**

**DEPARTMENT OF VOCATIONAL AND TECHNICAL
EDUCATION,
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA**

SEPTEMBER, 2018

DECLARATION

I declare that this dissertation titled “effect of computer-aided instruction on students’ academic performance in Financial Accounting in Federal Colleges of Education, North-West Geo-Political Zone, Nigeria” was carried out by me in the Department of Vocational and Technical Education. The information derived from the literature has been acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other Institution.

Suleiman USMAN

Date

CERTIFICATION

This Dissertation titled EFFECT OF COMPUTER-AIDED INSTRUCTION ON STUDENTS' ACADEMIC PERFORMANCE IN FINANCIAL ACCOUNTING IN FEDERAL COLLEGES OF EDUCATION; NORHT-WEST GEO-POLITICAL ZONE, NIGERIA by Suleiman USMAN meets the regulation governing the award of Master of Business Education Degree of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

I dedicate this work to my beloved wife, Halima Abubakar and my children- Ahmad, Abubakar and Aisha and to my late mother, Hajiya Sefiya Usman Dangana .

ACKNOWLEDGEMENTS

For the successful completion of this work, the researcher wishes to give thanks to the Almighty ALLAH the Most Merciful, the Most Gracious for the gift of life and well-being since the commencement and completion of this thesis.

The researcher's profound gratitude goes to his supervisors, in the persons of Prof. A.A. Udoh, and Dr. S. S. Amoor for their patience and supervision of this dissertation. Same gratitude goes to the HOD, Dr. S. Ibrahim and all other lecturers in the Department of Vocational and Technical Education Ahmadu Bello University Zaria for their respective contributions to the success of this dissertation. His gratitude also goes to the internal examiners; Dr. (Mrs) R. T. Umar and Dr. M. A.Bawa, for their valuable comments, contributions and suggestions on the work. His gratitude also goes to all non-academic staff in the Department of Vocational and Technical Education, Ahmadu Bello University Zaria especially Mal. Buhari, Mal. Abubakar and others whose names were not mentioned for their moral support. The researcher's gratitude also goes to his course mates for their contributions towards the completion of this work.

His immense gratitude also goes to his family members for their moral, financial and spiritual assistance in the writing of this dissertation. He is grateful to everyone who assisted to bringing this dissertation to a success.

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ABBREVIATION

AECC	Accounting Education Change Commission
ANOVA	Analysis of Variance
CAI	Computer Aided Instruction
CD	Compact Disc
FAAT	Financial Accounting Achievement Test
ICT	Information and Communication Technology
LAN	Local Area Network
NCE	National Certificate in Education
NPE	National Policy on Education
PC	Personal Computer
ROM	Read Only Memory
SPSS	Statistical Package for Social Science
UNESCO	United Nations Educational Science and Cultural Organisation
VTE	Vocational and Technical Education
WAN	Wide Area Network

OPERATIONAL DEFINITION OF TERMS

- Academic Performance - This refers to what students achieve in their studies.
- Computer Aided Instruction- This refers to computer tools that enhance the teaching process,
usually by focusing on one particular learning task and aiming to improve it. This includes Microsoft Excel, Power-point, Access, etc.
- Memory - Storage space in a computer system.
- Network - Any system made of a number of points.
- Software electronic - Stored digital information on magnetic disks or tapes or
information in computer memory that determines what the computer does.
- Lecturing Method used - This refers to the common conventional teaching method
in tertiary institutions.

ABSTRACT

This study was conducted on the effects of computer-aided instruction on students' academic performance in financial accounting in Federal Colleges of Education; North-west Geo-political Zone, Nigeria. Four research questions were raised to guide the study. Four null hypotheses were formulated for the study and tested at the probability 0.05 level of significance. Quasi-experimental research design was used for the study. The population of the study was eight hundred and twenty five (825) business education students. Purposive sampling was used to select Federal College of Education (Technical) Bichi with population of one hundred and seventeen students and the same number was used for the sample size. The data collection exercise lasted for four (4) weeks. Descriptive Statistics (mean and standard deviation) were used to answer the research questions and t-test was used to test all the null hypotheses at 0.05 level of significant. The result of the study revealed that both Microsoft excel and Power-point presentation had positive effects on students' performance in teaching financial accounting. The study also revealed that there was no significant difference in the performance of female students taught financial accounting using Microsoft Excel and those taught using power-point presentation. The study further revealed that using Microsoft Excel to teach financial accounting is better than using the Power-point presentation in Federal College of Education (Technical) Bichi- Kano, Nigeria. Based on the findings of this study, the researcher proffer three recommendations, amongst which is that financial accounting teachers should be trained and re-trained on how to use the accounting computer packages.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The focus of the study is on Federal Colleges of Education in the north-west geopolitical zone of the country and Federal College Education (Technical) Bichi in particular. Federal College of Education (Technical) Bichi is a tertiary institution established by decree No. 4 of 14th March 1986; and reviewed by decree no.6 of January, 1993 by the Federal Government of Nigeria with the sole aim of producing specialist teachers in technical, vocational, business and science subjects for the 9-3-4 system of education. The college is situated in Bichi town of Kano State. Its specific location is about 2.7 kilometers off Kano-Katsina road along the old Bichi-Bagwai road. Federal College of Education (Technical) Bichi was conceived from the need for professionally trained teachers in technical, vocational, business and science subjects, character and learning who will in turn transmit knowledge and the cherished values and aspiration of the Nigerian society to the young generation to ensure sustainable national development.

The curriculum is designed to empower individuals to challenge conventional thinking in pursuit of original ideas. The college management has introduced degree programs in affiliation with some of the reputable Nigerian Universities.

Computers have become the basis of data processing technology used in realizing information production, manipulation, and storing and distributing processes. They are one of the most important technological tools which are made use of in educational and instructional process. They address to more senses compared to other technological tools and make abstract and complicated concepts concrete digitally because of their extensive multimedia properties. Computers play an influential parts in

accomplishing many pedagogical functions such as measuring and evaluating knowledge and giving feedback, observing activities and performance of students, being independent from time and environment, providing students with motivation and participation to the lesson, considering individual differences regulating education level according to existing knowledge and progress of the students, and supporting instruction with such materials as graphics, pictures, animation and sound, (Sahin and Yildirim, 1999 in Al Sharaideh, 2011).

Computer-Aided Instruction (CAI) as the name suggests, is the use of a computer to provide instruction. It is transferring of instructional content and activities to students via computer. The potential benefits of computer aided instruction cannot be underestimated in the contemporary world. There is a plethora of established findings on the instructional value of computer, particularly in advanced countries. There are now several CAI packages on different subjects. It is obvious that the current trend in research all over the world is the use of computer facilities and resources to enhance students' learning. The nature of school settings and diversity of students' population and work skill requirement have necessitated the need for educators in particular and institution in general to evolve new teaching/learning methods and techniques. The central purpose of education is to effect desirable changes in students' behaviour. For learning to be promoted, students must respond to the learning experience to which they have been exposed, to determine whether or not instructional objectives have been achieved. The teachers, on the other hand must be continuous learners as they cannot promote learning if they are ignorant of what it takes to learn.

In his view about the importance of computer aided instruction, Arnold (2007) reported that, information that helps teach or encourages interaction can be presented on computers in the form of text or in multimedia formats, which include photographs,

videos, animations, speech, and music. Advantages of CAI include increased students access to information, adoption to individual students' abilities and preferences and increasing the amount of personalized instructions received by students. There are the benefits from the immediate responsiveness of computer interactions and appreciation of self-paced private learning environment also. Moreover, CAI learning experiences engage the interest of students and motivate them to learn. it therefore, increase independence and personal responsibility for education. Studies assessing the effectiveness of CAI are increasingly reporting its success in raising students' examination scores.

Business Education is an integral part of Vocational and Technical Education (VTE). VTE, according to United Nations Educational Scientific and Cultural Organisation (UNESCO), and the International Labour Organisation, is that type of education encompassing all those educational processes that lead to the acquisition of practical skills, attitudes understanding and knowledge relating to occupations in various sectors of the economic and social life. Again, Business Education is that aspect of total education programme that provides knowledge, skills understanding and attitudes needed to perform in the business world as a producer and/or consumer of goods and services that business offers.

Specifically, the main objectives of business education as highlighted by National Commission for Colleges of Education (2002), are to produce well qualified and competent National Certificate in Education (NCE) graduates in business subjects, who will be able to teach business subjects at the junior secondary schools, and be engaged in a life of work in an office as well as for self-employment among others. In colleges of education, students are expected to specialize in Accounting or Secretarial/Office Education option. As part of the courses offer in Accounting

Education option is financial accounting. Financial accounting is offered at all levels of the programme in colleges of education.

Financial accounting is an aspect of general accounting that enables management to render accounts for its stewardship in terms of the profit generated in relation to the assets invested in the business. The preparation of financial accounting information must conform to lay down rules, principles and government regulations. Previts and Merino in Principe (2005), maintained that, accounting is viewed as a social instrument; as a device that enables human to better comprehend and control the world of business. Seen in a larger context, along with time management and broader- skills in literacy and mathematics, accounting enables business people to qualify, summarize and interpret the abstract processes of business that could be evidenced by transactions and captured within the double-entry system. Accounting is the process of recording; classifying, selecting, measuring, interpreting and communicating financial data of an organization to enable users make decisions. It incorporates measurement and reporting of profit and loss.

Accounting education is an area that prepares an individual with the necessary skills, knowledge and competencies required in keeping books of account. It involves learning all the principles, rules and regulations and rudiments of accounting/book-keeping and the methods used in accounting processes. These principles form the basic fundamentals which guide Accountants in recording, appreciating and assessing accounting information as well as the preparation and interpretation of financial statements.

Students' academic performance is an aspect of education that has been and still is of great concern to parents, school managers, educational researchers and policy makers in both developing and developed nations. Academic performance refers to what

students achieve in their studies and how they cope with or accomplish different learning experiences given to them by their teachers, (Ibrahim, 2012). Lot of studies have been conducted in the area of students' achievement and these studies identify and analyses the number of factors that affect the academic performance of the students at school, college and even at University level. Their findings identify students' effort, previous schooling, parents' educational qualifications, family income, self-motivation of students, age of students, learning preferences and entry qualification of students, peer group influence, learning environment, learning materials, teachers' qualifications, and more as important factors that have effects on students' academic performance in different setting, (Ali, Haider, Munir, Khan and Ahmad, 2013). In educational institutions, what determines success is students' academic performance, or how well a student meets the standards set out by the institution.

The present research intends to establish whether the introduction of computer aided instruction in financial accounting class can enhance the students' performance. It is on the basis of discussed variables that the background for this study will be built.

1.2 Statement of the Problem

The need for improvement in teaching and learning of accounting is receiving the deserved attention from many researchers in recent time. Accounting Education Change Commission (AECC), (1990) in Principe (2005) recommends a redirected focus for higher education, giving priority to teaching and curriculum and course development. The commission is convinced that an increased emphasis on teaching and curriculum and course development are vital to the future of accounting education. Again, the need for change has arisen because accounting programmes have not kept pace with the dynamic, complex, expanding and constantly changing professional situations which students seem to be facing in the curriculum.

The researcher has observed that performance of business education students in financial accounting in the past in colleges of education tended to be better and more encouraging as against what is obtainable in recent times. Examination records of NCE I students in financial accounting from School of Secondary Education (Business), Federal College of Education (Technical) Bichi, showed that from 2010 to 2016, the pass rate of students has dropped from 68% to 42% (see details in appendix A). In the same vein, the researcher had interactions with some students and lecturers who gave their views on the reasons for recent poor performances of students in the subject. The reasons given by the students include; lack of motivation and interest in the subject, poor timing, lack of good teachers and poor teaching methods.

On the other hands, some lecturers attributed the poor performance of students to inadequate teaching materials, inadequate teaching staff, over population and low interest on the part of the students to learn the subject. Other researchers have written extensively on performance of students in financial accounting focusing on motivation of students to learn the subject, learning materials, and on attitude of students towards learning financial accounting. The researcher decides to study on how introduction of CAI in financial accounting class can improve the students' performance in the subject.

1.3 Objectives of the Study

The general objective of this study is to assess the effect of computer-aided instruction on students' academic performance in Financial Accounting in Federal Colleges of Education in North-West Geo-Political Zone of Nigeria. The specific objectives are to:

- 1 determine the differences in the academic performance scores of students taught financial accounting using Microsoft excel and those taught in the control group

using chalk-board in Colleges of Education in the North West Geo-political Zone, Nigeria?

- 2 assess the differences in the academic performance scores of students taught financial accounting using power point and those taught in the control group using chalk-board in Colleges of Education in the North West Geo-political Zone, Nigeria?
- 3 ascertain the differences in the academic performance scores of male students taught financial accounting using Microsoft excel and those taught using power point presentation?
- 4 determine the difference in the academic performance scores of female students taught financial account using Microsoft excel and those taught using power point presentation.

1.4 Research Questions

Based on the specific objectives of the study, the following research questions are drawn:

- 1 What are the differences in the academic performance scores of students taught financial accounting using Microsoft excel and those taught in the control group using chalk-board in Colleges of Education in the North West Geo-political Zone, Nigeria?
- 2 What are the differences in the academic performance scores of students taught financial accounting using power point and those taught in the control group using chalk-board in Colleges of Education in the North West Geo-political Zone, Nigeria?

- 3 What are the differences in the academic performance scores of male students taught financial accounting using Microsoft excel and those taught using power point presentation?
- 4 What are the differences in the academic performance scores of female students taught financial accounting using Microsoft excel and those taught using power point presentation?

1.5 Research Hypotheses

In line with the research questions, the following four null hypotheses are postulated:

- 1 There is no significant difference in the academic performance scores of students taught financial accounting using Microsoft excel and those taught in the control group using chalk board in colleges of education in the North West geo-political zone, Nigeria.
- 2 There is no significant difference in the academic performance scores of students taught financial accounting using power point and those taught in the control group using chalk-board in Colleges of Education in the North West Geo-political Zone, Nigeria?
- 3 There is no significant difference in the academic performance scores of male students taught financial accounting using Microsoft excel and those taught using power point presentation?
- 4 There is no significant difference in the academic performance scores of female students taught financial accounting using Microsoft excel and those taught using power point presentation.

1.6 Significance of the Study

The findings of this study are expected to be beneficial to the following stakeholders: the students, the lecturers, school administrators, policy makers and future researchers. For students, the study will hopefully be beneficial as evidence showing improvements in examination scores of the students taught with the aid of computer exists. The using of computer aided instruction might be a source of excitement and motivation to business education students in learning financial accounting.

The lecturers also stand to benefit from the study. It will hopefully spur the authorities of the colleges to step up in-service training of lecturers to improve their computing skills; thus, increasing their ability to apply CAI in teaching/learning of financial accounting.

The finding of the study will be of great significance to ICT planners and school administrations of colleges of education in the sense that, the finding of the study will give insight of what is expected of them in planning for the students and teachers of the future.

The finding of the study will be of great significance to the Ministry of Education, as well as Ministry of Science and Technology, as they are the principal determinants in the pedagogic aspect of ICT and teacher education training programme in Nigeria. The findings of the study will enable them to understand the situation and position of ICT in teacher training. The study will also be of importance to future researchers who may embark on similar or related field of studies on this topic. The study will serve as a material for reference.

1.7 Basic Assumptions of the Study

For the purpose of the study, the researcher made the following assumptions that:

1. using computer aided instruction to teach financial accounting makes students to perform better in examinations.
2. combining traditional method of teaching and computer aided instruction to teach financial accounting does not improve students' performance.
3. Using excel to teach students financial accounting make them perform better than when they were taught using power point.

1.8 Delimitation of the study

This study used quasi experimental design. The study is delimited to students in accounting education, who are in NCE I in Federal College of Education (Technical) Bichi, Kano State. The study is delimited to one Federal College of Education in order to eliminate intervening variables that may affect the study, such as; peer-group, instructional materials, infrastructure, environment and lecturers. The study is also delimited to the use of Microsoft power-point and Microsoft Excel for instruction. These are some of the computer aided instruction tools which enhance teaching process. Power-point is a software programme which enhances oral presentation and keeps the audience focused on subject of discussion while Excel is the application for reviewing, updating and creating spreadsheets on windows. Cash book is to be taught. It is a topic in financial accounting at NCE I level in colleges of education. The focus will be on two column cash book which accommodates receipt or payment transactions made in cash or through bank. The basis of any business is finance and that is why cash and bank balances are the most important aspects in accounting.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter reviewed related literature on effect of computer aided instruction (CAI) on academic performance of students. The chapter is made of the following sub headings:

- 2.1 Theoretical Framework
- 2.2 Conceptual Framework
 - 2.2.1 Concept of Computer Aided Instruction (CAI)
 - 2.2.2 Concept of Financial Accounting
 - 2.2.3 Concept of Academic Performance
- 2.3 Computer as Aid to Teaching and Learning
- 2.4 Computer Aided Instruction in Business Education
- 2.5 Factors Affecting Students' Academic Performance
- 2.6 Computer Aided Instruction (CAI) and Students' Performance in Accounting
- 2.7 Empirical Studies
- 2.8 Summary of Literature Reviewed

2.1 Theoretical Framework

The theoretical framework that informs this study is the behaviourist theory by Skinner in 1953. This is because the theory assumed that the best way to modify behaviour is to modify the environment. The study is using a computer aided class instead of the known conventional class setting. Behaviourist is a theory of learning, based upon the idea that all behaviours are acquired through conditioning. Conditioning occurs through interaction with the environment. Strict behaviourists believe that any person could potentially be trained to perform any task, regardless of things like

genetics, background, personality traits and internal thoughts (within the limit of their capability). Behaviour can be measured; trained and changed. It was on this ground that this theory was used for the study.

He places more emphasis on outcomes. Skinner in Chamber and Sprecher (1983) believed that immediate positive reinforcement following a correct response is important in learning but differentiated between learning a response and maintaining it. For Skinner, the goal of psychology should be to find ways to make education enjoyable and effective for all students. His learning theory relied on the assumption that the best way to modify behaviour was to modify the environment.

Skinner's primary contribution to behaviour management philosophy has been his research on operant conditioning and reinforcement schedules. An operant is a behaviour that acts on the surrounding environment to produce consequence. He advocated for the frequent use of reinforcement to modify and influence student behaviour. Reinforcement can be in different forms. Premack (1965) developed a principle (the premack principle) which argued that operant behaviours of low probability could be reinforced by using access to high-probability behaviour as a reinforcer. For example, if sitting quietly during instruction was a low probability behaviour for a student, access to playing with a preferred toy (a high-probability behaviour) could be used to reinforce for the operant behaviour.

2.2 Conceptual Framework

Based on this study the following concepts are examined: Computer Aided Instruction, Financial Accounting and Academic Performance.

2.2.1 Concept of Computer Aided Instruction (CAI)

Computer Aided Instruction (CAI) refers to teaching which involves the use of computer in combination with traditional mode of teaching. Information that helps teach

or encourage interaction can be presented on computers in the form of text or in multimedia formats, which include: photographs, videos, animation, speech and music. CAI tools, such as word processors, spreadsheets, and databases, collect, analyze and transmit information. They also facilitate communication among students, between students and instructors, and beyond the classroom to distant students, instructors and experts, (Arnold, 2007).

In the mid1950s and early 1960s a collaboration between educators at Stanford University in California and International Business Machines Corporation (IBM) introduced CAI into selected elementary schools. Initially, CAI programmes were a linear presentation of information with drill and practice sessions. These early CAI systems were limited by the expense and the difficulty of obtaining, maintaining, and using the computers that were available at that time.

With the advent of cheaper and more powerful personal computers in the 1980s, use of CAI increased dramatically. A recent development with far ranging implications for CAI is the vast expansion of the internet, a consortium of interlinked computers. By connecting millions of computers worldwide, these networks enable students to access huge stores of information, which greatly enhances their research capabilities, (Arnold, 2007).

Saliu and Vilchirim (1999) in Al-Sharaida (2011) maintained that, computers are one of the most important technological tools which are made use of in educational and instructional process. At the same time they play an influential part in accomplishing many pedagogical functions such as measuring and evaluating knowledge and giving feedback, observing activities and performances of students, being independent from time and environment, providing students with motivation and participation to the lesson, considering individual differences, regulating education level according to

existing knowledge and progress of the students and supporting instruction with such materials as graphics, pictures, animation and sound.

CAI systems fall into two basic types: tutor or tool, although the term CAI often refers to computer tutors. In the tutor classification, the computer has the information to be learnt and controls the learning environment. A CAI tool enhances the teaching process, usually by focusing on one particular learning task and aiming to improve it.

Within the tutor classification, there are four modes: drill and practice, tutorials, simulations and games. The tutorial mode is probably one of the most common ones within CAI. In this mode, the computer presents the information, guides the learner through the system, allows the learner to practice and then assesses the learner, (“In brief”, 2012).

Computer Aided Instruction is transferring instruction content and activities to students via computer. Here, computer are tools which complete and strengthen the system, they are not alternative which replace teachers teaching process, (Demirel 2003 in Al Sharaideh, 2011). Teacher determines objectives and attitudes; computers are used by teachers in educational and instructional environment as supplementary tools.

2.2.2 Concept of Financial Accounting

Financial accounting is an aspect of general accounting that enables management to render accounts for its stewardship in terms of the profit generated in relation to the assets invested in the business. The preparation of financial accounting information must conform to lay down rules, principles and government regulations. Previts and Merino in Principe (2005), maintained that, accounting is viewed as a social instrument; as a device that enables human to better comprehend and control the world of business. Seen in a larger context, along with time management and broader- skills in literacy and mathematics, accounting enables business people to qualify, summarize and interpret the

abstract processes of business that could be evidenced by transactions and captured within the double-entry system. Accounting is the process of recording; classifying, selecting, measuring, interpreting and communicating financial data of an organization to enable users make decisions. It incorporates measurement and reporting of profit and loss, (Longe and Kazeem, 2010). The study of accounting is traditionally divided into two parts according to the types of users of the accounting information. Financial accounting is primarily concerned with the needs of users outside the business (or other organization). Therefore it relates to the external control and management of resources (for example, by shareholders of the company in which they have invested their funds, or by banks making loans). A key part of financial accounting is reporting the performance and position of the business to these external users, via the financial statements. The form and content of financial statements is usually highly regulated. In contrast, management accounting is concerned with the needs of users inside the business. Therefore it relates to the internal control and management of resources (for example, by the directors, management or employees of a company). Management accounting statements may be more detailed than those prepared for external users, and do not normally need to meet any legal requirements. Countries around the world organise their economic and financial activities in different ways so, inevitably, legal requirements, regulation and administrative procedures also vary across countries.

Accounting Concepts and Conventions

Akintelure and Oguobi, (2003) opined that accounting concepts are the ground rules of accounting that are followed in preparation of all accounts and financial statement. Accounting concepts refers to the basic assumptions and rules and principles which work as the basis of recording of business transaction and preparing accounts. Accounting concepts mean and include necessary assumptions or postulates or ideas

which are used to accounting practice and preparation of financial statements. While Accounting Convention implies those customs, methods and practices to be followed as a guide line for preparation of accounting statements.

The main objective of accounting concepts is to maintain uniformity and consistency in accounting records. These concepts constitute the very basis of accounting. In line with Udoh (2004) the following accounting concepts were identified:

Business concept: This concept assumes that, business enterprise and the owners are two separate independent entities. Thus, the business and personal transaction of its owner are treated separately. Udoh (2004) emphasized that when the owner invests money in the business, it is recorded as liability of the business to the owners. Similarly, when the owner takes away from the business cash/goods for his/her personal use, it is not treated as business expenses. Thus, the accounting records are made in the books of accounts from the point of view of the business unit and not the person owing the business. This concept is the very basis of accounting.

Going Concern Concept: under this concept the enterprise is regarded as a going concern that is, the business is continuing in operation for the foreseeable future. It is assumed that the enterprise has neither the intention nor the necessity to liquidate or reduce materially the scale of its operations. This assumption implies that while valuing the assets of the business on the basis of productivity and not on the basis of their realizable value or the present market value, at cost less depreciation till date for the purpose of balance sheet. It is useful in valuation of assets and liabilities, depreciation of fixed assets and treatment of prepaid expenses.

Periodicity Concept: All the transactions are recorded in the books of accounts on the assumption that profits on these transactions are to be ascertained for a specific period. According to this concept, income or loss of a business can be analysed and determined

on the basis of suitable accounting period instead of wait for a long period. This is known as accounting period concepts, thus this concept requires that a balance sheet and profit and loss account should be prepared at regular intervals. This is necessary for different purposes such as: ascertain profit, financial statement, tax computation, and so on.

Duality Concept: Dual aspect is the foundation or basic principle of Accounting. It provides the every basis of recording business transaction in the books of account. This concept assumes that every transaction has a dual effect, that is, it affects two accounts in their respective opposite side. Therefore, every transaction has both giver and receiver and they are of equal value, hence the need to create accounts for each transaction: one to be debited and other to be credited. Slepian (2005) stated that all Accounting transactions must keep this equation balance, so when there is an increase on one side there must be an equal increase on the other side or equal decrease on the same side.

Realization Concept: this concept states that revenue from any business transaction should be included in the Accounting records only when it is realized. The term realization means creation of legal right to receive money. Selling good is realization, receiving order is not. In the other words, it can be said that: Revenue is said to have been realized when cash has been received or right to receive cash on the sale of goods or services or both has been created (Igben, 2007).

Accrual Concepts: the meaning of accrual is something that becomes due, especially an amount of money that is yet to be paid or received at the end of the accounting period. It means that revenues are recognized when they become receivable. When financial statements are prepared under the accrual concept of accounting, the effects of transactions and other events are recognized when they occur and not as cash or its

equivalent are received or paid. They are recorded in the accounting records and reported in the financial statement, of the periods to which they relate.

Accounting conventions: These are the rules and regulations that are intended to resolve the conflict which arises from the application of accounting concepts. The Accounting conventions identified by Akintelure and Oguobi (2003) are as follows: materiality, Objectivity, Consistency, Conservatism, and Fairness.

Materiality: According to this convention, consideration is given to all material events, insignificant details are ignored while preparing the profit and loss account and balance sheet. This principle holds that items of large material values are accorded their strict accounting treatment. Accounting practice only records events that are significant enough to justify the usefulness of the information. The materiality concepts proposes paying attention to important events and ignoring insignificant accounting items.

Objectivity: This principle connotes independence of judgment on the part of the accountant preparing the financial statement to meet the needs of all the users. It must be factual. Accounting records are to be derives from a source document and the information recorded is to be based on fact and not on personal opinion. Slepian (2005) explained that the concept emphasizes that accounting information should be measured and expressed in compliance with the Accounting standard which are commonly acceptable.

Consistency: In accounting there could be more than one way or alternative in solving a specific problem. The accountant is at liberty to choose any alternative. However, once an alternative has been selected, the accountant is expected to follow that alternative until its full benefit is derived rather than changing from one method to the other, Akintelure and Oguobi (2003). They concluded that the consistency concept just means that similar items are treated in a similar way and the same treatment should be applied

from one period to another. This means that when people look at an entity's accounts, they can confidently and easily compare previous month's or years' results. Once an entity decides on one method of reporting, same method should be used for subsequent events.

Conservatism: This convention is closely related to the policy of playing safe. The principle requires the exercise of great care in recognizing profit. While all known losses are adequately provided for, accountants do not zero in future profit no matter how likely may be. Ibrahim (2011) defined conservatism by the adage "anticipates no profit, but anticipates all losses". Anticipate profits means recognizing profits before there is legal claim to the revenues generating them and that the revenues are verifiable. Under the conservatism concept, the expenses of a particular accounting period are the costs of the assets used to earn the revenues that are recognized in that period. Therefore when the expenses in a period are matched with the revenues generated for the same period, the result is the net income or loss for that period. Udoh (2004) explained that the rule is to recognize revenue when it is reasonably certain and recognize expenses as soon as they are reasonably possible.

Fairness: This principle is an extension of principle of objectivity. It requires that accounting reports should be prepared not to favour any group or specific user of financial statement.

2.2.3 Concept of Academic Performance

Otoo (2007) says that academic performance is the capacity to achieve when one is tested on what one has been taught. Academic performance is related to content and intellect, meaning that academic performance depends on the learner's competence. Academic performance is commonly measured by examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects

are most important. Academic performance is the outcome of education – the extent to which a student, teacher or institution has achieved their educational goals. It is also seen as how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. It is observable and measurable behavior.

Academic achievement is the learning outcome - the determination of the extent to which a student has achieved her educational goal, and which can be measured by any form of assessment technique, (Agboh, 2015). Akinbobola (2006) described achievement of students as learning outcomes which include the knowledge, the skill and experiences acquired in both classroom and laboratory practices. Boyle and Dunleavy (2003) stated that students' achievement in learning are determined by factors such as teachers ability, motivation, interest, meaningfulness of subject matter, methods of instruction, memory capacity of the learners and gender of the students.

2.3 Computer as Aid to Teaching and Learning

In this era of globalization and technological revolution, education is considered as a first step for every human activity. It plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle & Lewis, 2002). It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life. This increase in productivity also leads towards new sources of earning which enhances the economic growth of a country (Saxton, 2000).

The introduction of computer, which is the major and most influential technology of the last millennium, has made the impact of technology felt in every sector, (Ibrahim, 2008). Teaching and learning process inevitably involves passing information from the teacher (sender) to the learner (receiver) and vice versa on a regular basis. This has been done over the years through different means; varying from

oral communication to written communication and most recently to electronic communication. ICT has developed students to learn and have enhanced performance, (Sanni, 2012). ICT based learning is more learner focused friendly, multi-dimensional and multimedia in character and content, it makes the teaching and learning process simpler, easier and more exciting, (Chaka, 2010 in Bako and Odewumi, 2010).

Encarta (2008) in Bingel (2010) maintained that, the growth of the use of computers in the classroom as audiovisual has reflected development in both technology and learning theory. Encarta (2008) reported that, audiovisual education emerged as a discipline in the 1920s. This was when film technology was developing rapidly. A visual instruction movement arose and encouraged the use of visual materials to make abstract ideas more concrete to students, and as sound technology also improved, the movement became known as sound audiovisual instruction. Audiovisuals were then viewed only as aids to teachers until when the military service of United State used audiovisual materials in training large number of persons within short periods of time. It was then the potential of the devices became apparent. Developments in communication theory and systems concepts in the 1950s and 60s led to studies of the educational process, its elements and their interrelationship.

Among the elements studied were teachers, teaching methods, information conveyed materials used by the students and the students' responses. The field of audiovisual as a result of the studies, shifted emphasis from devices and materials to the examination of the teaching and learning process and was now known as audiovisual communications and educational technology. Audiovisual devices/materials such as computers, CAI software and the internet are viewed as an integral part of the educational system.

Educational practitioners, the world over are taking advantages of the ability of CAI to transcend geographical barriers. Computers used in teaching can expose students to experience beyond the classroom; disseminate instruction across large area, thereby making education accessible to more people. In developed countries, communication satellites distribute educational programming to all public television stations. Some programs are broadcast while some are viewed on closed-circuit television, (Encarta 2008, Baine1 2010 in Bingel, 2010).

The emergence of inexpensive computer technology and mass storage media, which include optical videodiscs and compact disks or CD-ROM and CD-1 used to store large amounts of data such as encyclopedia or motion picture has given CAI practitioners better tools with which to work. A CAI as an effective teaching system incorporates elements of the traditional and progressive approaches of teaching and learning, (Bingel, 2010). Information and Communication Technology (ICT) applied to education enhances the delivery and access to knowledge and improve the curriculum. It encourages critical thinking and offers unlimited means of achieving educational goals, (Bako and Odewumi, 2012). ICT can make the work of teachers a lot easier, faster and less stressful as a single teacher can teach over a thousand at a time. There are several impediments to the successful use of CAI in schools in Nigeria. CAI is not without its problems with self-areas programmes, learners can be left on their own too much and may feel overwhelmed by the information and resources available. Arnold (2007) reviewed that:“Critics claim that poorly designed CAI systems can dehumanize or regiment the educational experience and thereby diminish student interest and motivation. Other disadvantages of CAI stem from the difficulty and expense of implementing and maintaining the necessary computer system. Some students’ failure can be traced to inadequate teacher training in CAI systems. Students training in the

computer technology may be required as well, and this process can distract from the core educational. Much effort has been directed at developing CAI systems that are easy to use and incorporate expert knowledge of teaching and learning.

Generally, there are emerging challenges in the use of information technology in education. According to Ogiegbaen and Iyamu (2005), “a formidable obstacle to the use of information and communication technology is infrastructure deficiencies. Computer equipment was made to function with other infrastructure such as electricity under “controlled conditions”. It has been generally difficult for Nigeria government to provide adequate, stable and reliable electricity supply in the country. As part of the challenges is the acute shortage of trained personnel in application software, operating systems, network Nigeria does not only lack information infrastructure, it also lacked the human skill and knowledge to fully integrate ICT into education system, (Okebukola,1997).

Availability of software is another great challenge facing the application of CAI in Nigeria educational system. Tobias (2011) observed that, the ultimate power of technology is the content and the communication. Though, software developers and publishers in the developed countries have been trying for long to develop software and multimedia that has universal application, due to the differences in curriculum across countries, software that is appropriate and culturally suitable to the Nigerian education system is in short supply. There are clear indications from many countries that the supply of relevant and appropriate software is a major bottleneck obstructing wider application of computer in teaching and learning, (Salomon, 1989).

In their report Ekpenyong, Ogbeide and Robinson (2012), concluded that, there are wide ranges of challenges to the successful use of information technology in business education. These include; ignorance about the importance of and need for

ICTs, general poverty, poor infrastructural supports, which includes inefficient electricity supply and telephone system, lack of support from the government leading to underfunding of business education and technological programmes, illiteracy and lack of basic computing skills and poor maintenance culture.

2.4 Computer Aided Instruction in Business Education

Business education is an integral part of vocational and technical education which is a field of training in business practices and in specific skill such as accounting, information process, keyboard/typewriting, record keeping and shorthand. Attah (2002), established that, in Nigeria, business education is conducted on two distinct levels as provided in the National Policy on Education (NPE); at the secondary and tertiary levels. At secondary level, it is education for administrative support personnel in business and industry and at the tertiary level, for business administration and for business teacher preparation. Included in the curricular are courses in secretarial skills, book-keeping and accounting, data processing, business communication, mathematics, law, computer programming and business management. These courses are vital to the economy as they provide a steady flow of skilled workers in great demand.

The development of the computer has affected many changes in business education at the vocational level; it has led to the establishment of training programs for computer operators and programmers and in higher institutions the emphases has been on utilization of more efficient management information systems to provide data for making business decisions, (Bingel, 2010). Course-ware for instructions in accounting, finance, management information systems, operations management and international business can be accessed on the internet, a global consortium networks linked by common communication programs and protocols, is a set of established standards that enables computers to communicate with each other. The internet is an inexhaustible

source data on any desired topic that no educational establishment can afford not to connect with.

As computers are capable of communicating with other computers through a series of connections and associated hardware called a network, computers in colleges can be networked so that CAI data can be exchanged rapidly between teachers and students of business education. Describing how the networks works, Bingel (2010) reports that one type of network suitable for CAI application in colleges is the Local Area Network (LAN), which consists of several personal computers (PCs) or work-stations, which are similar to PCs but have greater memory and more extensive mathematical abilities, connected to special computer called a server, within the same classroom or lab. The server stores and manages data; it contains all of a networked group's data and enables LAN work-stations or PCs to be set up without large storage capabilities. Here each PC may have 'local' memory for instance, a hard drive, specific to itself but the bulk of the storage resides on the server. It reduces the cost of the work-stations or PCs, as the cost of computers are determined by their storages and memory capacity. Less expensive computers can be purchased to increase the computer to student ratio, and it simplifies the maintenance of CAI software because the software resides only on the server rather than on each individual work-station or PCs.

Wide Area Networks (WANs) are networks that can span large geographical areas. CAI classes can connect to these networks to use facilities in another city or country. For instance, a CAI class in any of the colleges under study can browse through the computerized lessons of the national e-library, on any desired topics, if the colleges are connected to the large WAN which is the internet.

Onojetachi (2012) noted that, the use of ICT for a more equitable development of education (business education inclusive) which is aimed at expanding the frontiers of

knowledge is a right step in the right direction. It is now more than possible to apply ICT in business education through e-learning, blended learning, mobile learning, distance learning and individualized learning, especially with Computer Assisted Instrument (CAI). Additionally, ICT can be used in business education programme in the areas of visual teaching and learning, multi-reading, web-based instruction, instructional slides and tutorials.

2.5 Factors Affecting Students' Academic Performance

Students' academic gain and learning performance is affected by numerous factors. Lot of studies have been conducted in the area of students achievement and these studies identify and analyze the number of factors that affect the academic performance of the students at school, college and even at university level. Their finding identify students' effort, previous schooling, parent's educational background, family income, self motivation of students, age of student, learning preferences and entry qualification of students as important factors that have effect on student's academic performance in different setting. The utility of these studies lies in the need to undertake corrective measures that improve the academic performance of students.

It is generally assumed that the students who showed better or higher performance in the starting classes of their studies also performed better in future academic years at degree level. Everyone can be surprised with this assumption if it could be proved scientifically. From the last two decades it has been noticed significantly that there is great addition in research literature and review material relating to indicators of academic achievement with much emphasis on this dialogue, whether traditional achievement measures of academic performance are best determinants of future academic gain at university or higher level or innovative measures. However, it is also observed that many of the researchers are not agree with

this view point or statement. Reddy and Talcott (2006) looks disagree with these assumptions that future academic gains are resolute by preceding performance. In their research on the relationship between previous academic performance and subsequent achievement at university level, they found that students learning or studying at graduate level and the score secured did not predict any academic achievement at university level. They also cited Pearson and Johnson (1978) who observed that on the whole grade association of only 0.28 between graduate level marks and university degree achievement.

It is also confirmed in the study of Oregon State University (2003) on graduate admissions that normal measures of educational potential and academic performance such as high school GPA (Grade Point Average) scores showed only 30% of the deviation in initial or starting (first) year at college. It is important to note that even these studies do not agree with the former studies who explored that previous achievement affect the future performance of the students in studies, they confirmed that the admission scores are related to academic performance at university level but to a very minimal extent. McDonald et.al (2001) also suggested that the scores of graduate level studies still out perform any other single measure of cognitive aptitude in predicting success at university level.

Parent's socio-economic condition, which includes parents' academic and professional qualification, revenue and occupational affiliation, is also associated with academic gain of students. The results of many studies confirmed that academic achievement of students is contingent upon parent's socio-economic condition. So the students from higher social economical backgrounds will perform better than other students associated with low social economic backgrounds. "Social and economical status of student is generally determined by combining parents' qualification,

occupation and income standard” (Jeynes, 2002). Among many research studies conducted on academic achievement, it is not very surprising to observe that socio-economic status is one of the main elements studied while predicting academic performance.

Graetz (1995) conducted a study on socio-economic status of the parents of students and concluded that the socio economic background has a great impact on student’s academic performance, main source of educational imbalance among students and student’s academic success contingent very strongly on parent’s socio economic standard. Considine and Zappala (2002) also having the same views as Graetz (1995), in their study on the influence of social and economic disadvantage in the academic performance of school students noticed, where the parents or guardians have social, educational and economical advantage definitely strengthen the higher level success in future. But it is also noted that these parents make available sufficient psychological and emotional shore up to their children by providing good educational and learning environment that produce confidence and the improvement of skills needed for success.

On the other hand, Pedrosa et.al (2006) in their study on social and educational background pointed out those students who mostly come from deprived socio-economic and educational background performed relatively better than others coming from higher socio-economic and educational area. They named this phenomena educational elasticity. It is obvious and true that the criteria for categorizing socio-economic standard in different countries are different depending on their norms and values. The criteria for low socio-economic status for developed country will be different from the criteria of developing nations and same will be in the case of developing and under developing countries. “The total income of families, monthly or annually and their expenditures also put a great effect on the learning and academic opportunities

accessible to youngsters and their chances of educational success. Furthermore, he also pointed out that due to residential stratification and segregation, the students belonging to low-income backgrounds usually attend schools with lower funding levels, and this situation reduced achievement motivation of the students and high risk of educational malfunction in future life endeavors” (Escarce, 2003).

Considine&Zappala (2002) observed that children who come from those families having low income make known more subsequent models in terms of learning outcomes; low literacy level, low retention rate, problems in school behaviour and more difficulty in their studies and mostly display negative attitude towards studies and school. The view point of Considine and Zappala is more strengthen by this statement of Eamon, According to Eamon (2005) “Those students who usually come out from low socio-economic status or area show low performance in studies and obtained low scores as compared to the other students or their counter parts”.

It is also assumed that children learning outcome and educational performance are strongly affected by the standard and type of educational institution in which students get their education. The educational environment of the school one attends sets the parameters of students’ learning outcomes. Considine and Zappala (2002) quoted Sparkles (1999) who maintained that schools environment and teachers’ expectations from their students also have strong influence on student performance. Most of the teachers working in poor schools or schools having run short of basic facilities often have low performance expectations from their students and when students know that their teachers have low performance expectations from them, hence it leads to poor performance by the students. Kwesiga (2002) approved that performance of the students is also influenced by the school in which they studied but he also said that number of facilities a school offers usually determine the quality of the school, which in turn affect

the performance and accomplishment of its students. Sentamu (2003) argue that schools influence educational process in content organization, teacher and teaching learning and in the end evaluation of the all. All these educationists and researchers agreed with this principle that schools put strong effect on academic performance and educational attainment of students.

In a study of relationship among school size, resource utilization and school effectiveness in Ilorin Local Government Areas, Ibitoye (2003) discovered that there is a significant relationship between enrollment, utilization of classrooms provided for teachers, the teaching of learning activities and students academic performance. In the same way, Akpofure and N'dipu, (2000), reported the need for schools to maintain a manageable carrying capacity in utilization of classrooms, libraries and laboratories for effective teaching and learning. To them, this will pave the way for quality assurance in schools. A similar study by Aduwa (2004), on determinants of students' academic success, reported that a student's home environment, their cognitive abilities, self-esteem, self concept, study habits and motivation affect their academic success. Contrary to this, Iyamu (2005) contended that the provision of all these factors may not have significant impact on successful learning if the learners are not exposed to competent principals, teachers and other school teams. Middle and high school students learn more from teachers who hold Bachelor's or Master's degrees in the subjects they teach and from experienced teachers than they do from less experienced ones (Darling-Hammond, 2000).

Students from elite schools are expected to perform good because these elite schools are usually very rich in resources and facilities. Some researchers have the view that school ownership and the funds available in schools do indeed influenced the performance of the student. Crosnoe and Glen (2004) noticed that school ownership,

provision of facilities and availability of resources in school is an important structural component of the school. Private schools due to the better funding, small sizes, serious ownership, motivated faculty and access to resources such as computers perform better than public schools. These additional funding resources and facilities found in private schools enhance academic performance and educational attainment of their students.

2.6 Computer Aided Instruction and Students' Performance in Accounting.

Student's academic performance is an aspect of education that has been and still of great concern to parents, school managers, educational researchers and policy makers in both developing and developed nations. It is also of great concern across all levels of education in a number of countries, (Makori and Onderi, 2013).

Teachers/Lecturers are under pressure by parents to improve on method of teaching for better achievement, educational researchers are under pressure by policy makers to isolate factors that under pin improvement of academic achievements, while schools and institutions of higher learning are under pressure to find ways possible to improve academic performance which will reflect in the quality of graduates they produce. In the United States, under achievement of the minority students have been a matter of grave concern to educators, parents and policy-makers for several decades, (Chang, 2012).

Ibrahim (2012) refers to academic performance as what students achieve in their studies and how they cope with or accomplish different background and learning experiences given to them by their teachers. Flegun (2005) in Ibrahim (2012) reported that, in educational institution, success is measured by academic performance, or how well a student meets the standard set out by the institution.

Accounting is the process of recording business transactions in a systematic form so that the financial position of the business can be communicated to the users of such

accounting information. Accounting education is an option offered under business education department in universities and other degree awarding institutions as well as institutions that award National Certificate in Education (NCE) (Azih, 2012).

In the opinion of Yusuf (2009), financial accounting is a generic term covering both the book-keeping and accounts aspects of any economic entity. It deals with the process of capturing, processing and communicating financial information (Osuala, 2000). Financial accounting is not an end in itself; rather it is an information system that measures, processes and communicates financial information of an identifiable economic entity for use by management and other interested parties. The objectives of financial accounting, according to Osuala (2004) are: to give students additional vocational skills that will enhance their opportunities for future occupational success, to enable students become proficient in financial transactions and management, to equip students with better understanding of business practices and procedures, to provide vocational training to students in the practical knowledge of daily bookkeeping activities, and to help students understand the cycles and steps involved in financial accounting so that the relations of each step to all other steps are properly understood. By these objectives, it is expected that students of financial accounting on graduation from tertiary institutions should be able to secure paid job or be self-employed. Equally, it is expected that these graduates would be able to successfully manage their own business outfit with the acquired financial accounting skills, thus contribute their quota to Nigerian economic growth and development. Unfortunately, one may be constrained to contend that the achievement of the above elaborated objectives is defeated as a result of the continuous poor achievement and declining interest of students in studying financial accounting. Supporting this claim, Azih and Nwosu (2011) reported that the performance of students of financial accounting is generally poor in examinations. They

argued that the major reason for this poor performance is the use of lecture method in teaching the course which is skill oriented.

In his opinion, Akin (2004) in Ibrahim (2012), argued that, the issue as to whether or not accounting is difficult depends on the person in question, his position towards the subject and his level of motivation. Zwick (2012) established some correlations linked to academic success drivers to include: socioeconomic background and particularly parental academic achievement; students peers and selection into study subjects; and individual characteristics such as previous school achievements, assessment of capacities or study motivation are positively correlated with academic success. Teodorovic (2011), reported that, some school variables have been found to be associated with students' achievement. They include staff cohesion in academic and disciplinary matters; pleasant working environment, principals, leadership, high expectation for students, school goals, inter-staff relations, emphasis on academic achievement, encouragement and active engagement of parents, strong management teams and quality teaching at the school.

Mark (2010) argues that other things being equal, students at better resourced schools would be expected to perform at higher level than students attending poorly resourced schools. Jebson and Moses (2012) also observed that learning resources play a paramount role in the teaching and learning of science subjects and thereby contributing to students' academic achievement. Great deal of research has also focused on class size, student-teacher ratio, learning environment, cultural resources among others in relation to academic achievement, (Atanda and Jayeoba, 2011).

The potential benefit of computer assisted instruction (CAI) cannot be underestimated in the contemporary world. There is a plethora of established findings on the instructional value of computer, particularly in advanced countries. There are now

several CAI packages on different subjects. It is obvious that the current trend in research all over the world is the use of computer facilities and resources to enhance students learning, (Yusuf and Afolabi, 2010). Nouri and Shahid (2005) investigated the effect of using PowerPoint in lectures on students' attitude. They found out that those who use mental imagery did better in quizzes if they were in PowerPoint group. Stanley and Edward (2005) developed an interactive, multimedia CD for use in a computerized accounting systems and auditing class. They reported the results of the students' evaluations of teaching and of focus groups, concluding that students benefited from the use of the CD.

The advantages of computer assisted instructional method according to Orjika (2012) include, ensuring the application of proven teaching methods to students; offering equal educational opportunities for students by using the same programme; changing the role of the teacher from teaching capacity to that of a guide; also when properly handled, removing fright and embarrassment on students and bringing about meaningful learning and academic achievement.

Sithole and Nhete (2016) concludes by contending that by virtue of their versatility, computers, can be used in accounting education to help to shift the focus of instruction from learning that is teacher-centred to learning that is student-centred, thus implying that computers bring with them a constructivist conception of teaching which shifts attention from teaching as the imparting of knowledge to teaching that engages students in that there is hands-on interaction with instructional materials in authentic problem-solving contexts.

2.7 Empirical Studies

The following empirical studies on computer aided instruction are reviewed:

Jegade and Josiah (2003) studied Computer Education in Nigeria Secondary Schools: Gaps Between Policy and Practice. The researchers used survey research design and descriptive statistics for analysis in comparing the National Computer Policy with existing practice in selected Federal Unity Secondary Schools, using 54 teachers in 20 secondary schools, 10 Federal Government Colleges and 10 private secondary schools with 200 junior secondary school students. Respondents completed a questionnaire consisted of 4 parts with 25 items concerned with general information, qualifications and CAI experience, facilities, hardware types, computer laboratories and text books, teaching personnel and funding, the data were then analyzed using descriptive statistics.

Existence of 'wide gaps' between policies dictates and the practice in the schools were discovered. On the question of availability of competent CAI teachers in schools in line with policy expectations, the study established that holders of the Nigeria Certificate in Education (NCE) constituted the least, while degree holders in allied courses; mathematics, physics and or economics, constitute the majority of CAI applying teachers.

However, the study failed to involve the school administrators in the finding. This would have helped to find out why the resources both human and material were not adequately supplied.

In a study carried out by Eben and Ayaba (2009) titled Tertiary Students' View on Information and Communication Technology Usage in Ghana, the purpose was to identify the issues and concerns of students concerning the use of ICTs in teaching and learning. The survey method was applied in the study; the population of the study

consisted of students from public Universities and from this population, the sample drawn and used for the study was 100 students from University of Cape Coast. Non-probability methods (accidental and purposive methods) were used in the administration of questionnaires. Qualitative and quantitative methods were used to analyse data. The qualitative methods involved descriptive indicators to evaluate the use of ICTs in teaching and learning. The quantitative methods used were frequency calculation and graphic representation of statistics.

The findings of the study revealed that the use of ICTs, such as the interactive whiteboards, was on the increase in lecture halls. E-mail is used by most students but limited to their personal communication with friends and family members. Most lecturers did not engage their students in the use of ICTs by giving them assignments through e-mail, referring to the online academic resources, web references, referring to CD-ROMs in referenced textbooks, and others. Empirical analysis brought to the fore that ICTs are not extensively used in teaching and learning in Ghana's public Universities specifically at the University of Cape Coast.

The study was purely educational and on computer (ICT) application in education, which makes it relevant to this research work. The sample size for the study was small and the researcher was silent on the reliability of the instrument for data collection.

Yusuf and Afolabi (2010) examined the effects of computer assisted instruction (CAI) on secondary school students' performance in biology. Also, the influence of gender on the performance of students exposed to CAI in individualized or cooperative learning settings package examined. There were three research questions and three hypotheses postulated for the study. A quasi-experimental type of the pre-test, post-test, non-equivalents, non-randomized control group of research design was used. The target

population of this research was the first year senior secondary biology students in Oyo town and Ibadan city, Nigeria. The sample for experimental group I is made up of 40 students. This comprises of 20 males and 20 females. The experimental group II also has 40 students made up of 19 males and 21 females, while the control group was made up of 19 males and 21 female students. The instrument for this research were “computer Assisted Instrument Package” (CAIP) and “Biology Performance Test (BIOPET)”. Pre-test and post-test scores of the students were subjected to Analysis of Covariance (ANCOVA).

The findings of the study showed that the performance of the students exposed to CAI either individually or cooperatively were better than their counterparts exposed to the conventional classroom instruction. However, no significant difference existed in the performance of male and female students exposed to CAI in either individual or cooperative settings. Based on the research findings, recommendations were made on the need to develop relevant CAI packages for teaching biology in Nigerian secondary schools.

This study is related to this research work. It studied the effects of Computer-Assisted Instruction on students’ performance which is the focus of this research. However, this study was designed to focus on only private secondary schools in Nigeria, thus the findings may not be applicable to other public schools. The study was silent on reliability of the instrument for data collection.

Osakwe, (2010) carried out a study titled “The Influence of Information and Communication Technology (ICT) on Teacher Education and Professional Development in Delta State, Nigeria”. This study was designed to investigate the influence of ICT on teacher training in the state. The population comprised all teacher trainers (lecturers) of colleges of education in Delta State. A sample of 135 lectures was randomly selected

using the stratified sampling technique. Four null hypotheses were raised and tested at the alpha level of 0.05 significance using Pearson Product Moment Correlation statistics. The data collected were analyzed using Pearson Product Moment Correlation.

The results revealed that there was no significant relationship between ICT and lesson presentation and access to information on teaching materials. The study also revealed a non-significant relationship between ICT and students' effective learning and professional supports. The research reviewed is similar to this study as they both interested in teacher education (NCE). However, using only the lecturers in the opinion of this researcher is not enough. Both the students and lecturers would have served as the respondents in order to get good results.

Based on the findings and conclusion, it was recommended that government should provide ICT accessories and infrastructure in all colleges of education, adequate fund and regular electricity power supply be provided. Also refresher courses should be organized for teacher trainers and trainees on the operation and usage of ICT.

In another study carried out by Okorie (2010) titled "ICT and Educational Performance: The Inter-Relationship of Selected Critical Variables". The study set out to measure the use of the internet as an information and communication tool in promoting educational performance and knowledge of Covenant University undergraduates, and analyze the inter-relationship of selected social and demographic and other relevant variables. A sample size of 378 was derived from a population of 7000 using simple random sampling method. A questionnaire was used as the data collection instrument and the data was analyzed for cross tabulation and chi square using SPSS. The hypotheses were tested using the chi square test of independence at 5% level of significance.

The first Null hypothesis proposed that there was a significant relationship and correlations between internet usage and the sex of the respondents. The second hypothesis stated that there was a significant relationship between internet and the age of the respondents. The third null hypothesis proposed that there was a significant relationship between internet knowledge and the academic performance of the respondents.

There are similarities in this work with the undergoing study. They share common area of interest, including gender and academic performance. The researcher did not explain whether the reliability of the instrument used for data collected was established.

Al Sharaideh (2011) studied the impact of using computer-assisted programs for teaching national education in Jordanian schools. The purpose of the research is to investigate the effect of using computer-assisted programs for teaching national education on students' achievement in Jordanian schools. Three questions were designed for the study while the population for the study was 4600 (females and males) tenth grade students in government schools in Al Tafila in Jordan. The sample consisted of 129 tenth grade students; 60 male and 69 females.

The study was carried out to follow the equivalent pre/post-test group design. Descriptive statistical analyses were used (mean and standard deviation) for the pre and post tests of students' achievement in national education. Comparison statistical methods were used (Two Way ANOVA) analysis of variance to make a comparison between the control and experimental groups and gender variable (male and female).

The finding of the study indicated that there were statistically significant differences in the post-test between the control and the experimental groups in favour of the experimental group, and there was no statistical significant difference in the

students' performance due to gender. The study is related to this research as both are on effect of computer assisted programmes on students' performance.

The researcher was silent on the research design the study was based and the reliability of the instrument for data collection. The population consisted of students from different schools and they are of different sexes which might make comparison of performance based on gender subjective. Also, sample size of 129 out of 4600 population was relatively small.

Agboh (2015) study was conducted to determine the effects of Computer Assisted Instructional (CAI) technique on students' achievement in financial accounting in Colleges of Education in Southeast Nigeria. Three research questions and three null hypotheses were developed to guide the study. The study adopted quasi-experimental design. The population for the study was 558 NCE III students of financial accounting in the nine colleges of education in Southeast Nigeria. The sample size for the study was 122 NCE III students of financial accounting from two randomly sampled Colleges of Education in Southeast Nigeria which include Federal College of Education, Eha-amufu, Enugu State, and Alvan Ikoku College of Education, Owerri, Imo State. The instrument for data collection was 40-multiple choice Financial Accounting Achievement Test (FAAT). The instrument was validated by three experts and the reliability was tested using Kuder Richardson 21 (K-R21) reliability method in which a coefficient of 0.81 was obtained. Data collected were analysed using mean and standard deviation for answering the research questions while Analysis of Covariance (ANCOVA) was used for testing the hypothesis at 0.05 level of significance.

Based on data analyzed, the study found that students taught financial accounting with computer assisted instructional method had significantly higher mean achievement score than the control group that taught with conventional lecture method. The study

also found that gender of the students had no significant ($p < 0.05$) interaction effects with the treatment given to them. Based on these findings, the study among others recommended that colleges of education lecturers should adopt the use of computer assisted instructional technique for effective teaching and learning of their students and that seminars and workshops should be organized to retrain the lecturers on the use of computer assisted instruction to enhance students' achievement.

There are similarities in this work with the undergoing study. They share common area of interest, including gender and academic performance. The researcher did not explain whether the reliability of the instrument used for data collected was established.

Ugo (2017) carried out a study to determine the effects of computer assisted instruction (CAI) on students' achievement in Agricultural science in secondary schools in Bayelsa State, Nigeria. Three research questions and three null hypotheses were developed to guide the study. The study adopted quasi-experimental design. The population for the study was all 4,875 SSS II students offering Agricultural science in Bayelsa State. The sample size for the study was 85 SSS II students of Agricultural science from two randomly sampled secondary schools in Kolokuma/Opokuma Local Government Area of Bayelsa State. The instrument for data collection was 60-multiple choice Agricultural Science Achievement Test (ASAT). The instrument was validated by three experts and the reliability was tested using Kuder Richardson 21 (K-R21) reliability method which yielded a coefficient of 0.76.

Data collected were analysed using mean and standard deviation for answering the research questions while Analysis of Covariance (ANCOVA) was used for testing the hypothesis at 0.05 level of significance. The study found that students taught Agricultural science with computer assisted instruction had significantly higher mean

achievement score than the students taught with conventional lecture method. The study found that the use of CAI appreciably increased the performance of both male and female students than the use of conventional lecture method. In addition, the study found that gender of the students had no significant ($p < 0.05$) interaction effects with the treatment given to them. Based on these findings, the study among others recommended that secondary school Agricultural science teachers should adopt the use of computer assisted instruction for instructional delivery, seminars, workshops and conferences should be organized by the state ministry of education where teachers are trained on the usage of computer assisted instruction.

2.8 Summary of the Reviewed Literature

In this chapter, the theoretical framework for this study is the Skinner's Behaviourist theory. This theory was discussed. Some related literatures were reviewed. The review was done in stages, literature on concept of Computer Aided Instruction (CAI) were reviewed. CAI is transferring instruction content and activities to students via computers. It is the teaching which involves the use of computers in combination with traditional modes of teaching.

Literature related to computers as aids to teaching was reviewed. Different researchers wrote on the importance of computer in teaching and learning and agreed that, computer is more of learner focused and friendly, multi-dimensional and multimedia in character and content and makes learning process simple, easier and exciting.

The relevancy of CAI in business education was discussed in line with the view of authors in the literature reviewed. It was noted that computer are capable of communicating with other computers through series of connections and associated hardware called a network, computer in colleges can be networked so that CAI can be

exchanged rapidly between teachers and students and between students and students of business education.

Literature on students' performance in accounting and CAI was reviewed. Many researchers have reported the effect of technology on students' performance. It is obvious that the current trend in research all over the world is the use of computer facilities and resources to enhance students learning.

Eight empirical studies were reviewed. From the reviewed of the eight empirical studies, the researcher noticed that none of them carried out studies on students in federal colleges of education in north-west geo-political zone of Nigeria on similar topic, which is the major gap this study has filled.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter describes the proposed research design and methodology under the following sub-heading:

- 3.1 Research Design
- 3.2 Population for the Study
- 3.3 Sample Size/Sampling Procedures
- 3.4 Instrument for Data Collection
 - 3.4.1 Validity of Instrument
 - 3.4.2 Pilot Study
 - 3.4.3 Reliability of Instrument
- 3.5 Procedure for Data Collection
- 3.6 Procedure for Data Analysis

3.1 Research Design

This study used quasi-experimental research design. This is in line with the view of Sambo (2005) who opined that, quasi-experiment has a great accuracy in research. It enables the researcher to experiment teaching the students to determine the students' academic performance. He further stated that, a quasi-experiment is an empirical study used to estimate the causal impact of an intervention on its target population without random assignment. Quasi-experimental research shares similarities with the traditional experimental design or randomized-controlled trial, but it specifically lacks the element of random assignment to treatment or control. Instead, quasi-experimental designs typically allow the researcher to control the assignment to the treatment condition, but using some criterion other than random assignment (for example, an eligibility cutoff mark). In some cases, the researcher may have control over assignment to treatment.

Quasi-experiments are subject to concerns regarding internal validity, because the treatment and control groups may not be comparable at baseline. With random assignment, study participants have the same chance of being assigned to the intervention group or the comparison group.

3.2 Population for the Study

The population for the study consists of all NCE I Business Education students of Federal Colleges of Education in the north-west geo-political zone of Nigeria as at 2016/2017 academic session. Accordingly, the population of the study was 825 males and females NCE I business education students in the five Federal Colleges of Education in the North-West Geo-Political Zone, as shown in table 1

Table 1 **Population of the Study**

Name of the College	Students		
	Male	Female	Total
Federal College of Education, Kano	124	101	225
Federal College of Education (Technical), Bichi	66	51	117
Federal College of Education, Zaria	99	72	171
Federal College of Education, Katsina	59	43	102
Federal College of Education (Technical), Gusau	--	210	210
Total	386	460	825

Source: School/Departmental Record Offices, 2017

3.3 Sample Size and Sampling Procedure

Purposive sampling was used to select Federal College of Education (Technical) Bichi from the North-West Geo-Political Zone, Nigeria, with population of one hundred and seventeen (117) students. The intact class was used. The reason for the selection was that, the college has all the facilities needed to carry out the experiment. Hat drawn

system was used by the researcher to divide the students into three groups. The researcher writes 'P' for Power-point, 'E' for Excel and 'C' for control groups on pieces of paper and put them in a hat. They were thoroughly mixed and picked one after the other by the students. Therefore, the students used for Power-point group consist of 39 students, 39 students in Excel and 39 in control groups as shown in table 2.

Table 2 **Sample Size**

Category	Male	Female	Total
Microsoft Excel	22	17	39
Microsoft Power-point	22	17	39
Control Group	22	17	39
Total	66	51	117

3.4 Instrument for Data Collection

The instrument for data collection was Financial Accounting Achievement Test (FAAT). The instrument includes the pre-test (appendix F) which was administered to the students to ascertain the level of each students accounting knowledge. This test required posting of transactions into debit or credit sides (ability to determine the giver and the receiver in transactions) and it lasted for 30 minutes. The second part of the instrument was the post-test. The questions for the tests were based on the course content for the course that is two column cash book and was administered to all the groups (Microsoft Excel, Microsoft Power-point and control groups). The instrument was scored based on the provision of the attached marking schemes. The marking scheme for pre-test (appendix G) provides one mark each for every correct posting and each paper was marked over 10 marks. 4 marks and above was considered passed mark and any score below this was considered fail.

The post-test marking scheme (appendix I) provided two marks for each correct posting under the topic, Two Column Cash Book. Scores below 40% of the total marks was considered fail and a score of 40% from the total marks and above as pass.

3.4.1 Validity of the Instrument

The researcher submitted the Financial Accounting Achievement Test and their marking schemes for scrutiny and vetting to the researcher's supervisors and other research experts not below the rank of Senior Lecturers in Business Education Section in the department of Vocational and Technical Education; Ahmadu Bello University, Zaria to ensure their face validity. The instrument was subjected to thorough scrutiny and proofreading by the experts. All the corrections were effected as observed by them. This was supported by the view of Hanger and Becker (2005) who stressed the need and significance of establishing the validity of research instrument by a panel of experts to determine if its items (content) can elicit the desired data they are intended to elicit.

3.4.2 Pilot Study

In order to establish the reliability of the Financial Accounting Achievement Test (FAAT) a pilot study was conducted. The main purpose of this pilot study according to Kerlinger, Fred and Howard (2000) is to confirm the suitability adequacy and effectiveness of the instrument.

The pilot study was conducted using 30 students of NCE I at the Department of Business Education, Sa'adatu Rimi College of Education, Kano. The reason for the choice of the college for the pilot study is that it has similar characteristics with the colleges under study in terms of programme and location but not part of the population of the study.

3.4.3 Reliability of the Instrument

The reliability of the Financial Accounting Achievement Tests was determined by the researcher using the result got in the pilot study. Statistical analysis was conducted on the result using Pearson Product Movement Correlation Coefficient. A reliability coefficient of 0.76 was obtained. The researcher measured the attribute of the instrument using test retest method. This according to Raymond (2005) was judged to be reliable because it is more than 0.05.

3.5 Procedure for Data Collection

An introductory letter (appendix B) was collected by the researcher from the department of vocational and technical education, Ahmadu Bello University Zaria to the selected Federal College of Education seeking for permission for collection of data. The data collection phase lasted for four (4) weeks in the school, comprising of two (2) hours per week with the help of one research assistant.

The first week was used for introduction, familiarization and understanding of the environment and the students. It is within this period that the pre-test was administered to the students. The pre-test was in the last 30 minutes of the first contact hour of the first week with the students. The pre-test (appendix F) was marked using the marking scheme (appendix G). The scores serve as a basis for comparing students' performances before and after the treatment. The second hour of the first contact of week one was used to divide the students into three groups (Excel, Power-point and control groups). The last 50 minutes of the contact hours was used to introduce Excel group to the Microsoft and how it operates.

For the second week, the lesson with the Excel group continued using the lesson plan for the teaching (appendix D). For the week three, the Power-point group was exposed to the same lesson as in the Excel group but with the aid of Microsoft Power-

point using its lesson plan (appendix E). The full contact hours was used for the computer aided groups because of time required for installation of computer and projector. The first one hour thirty minutes of the last week (forth week) was used for the control group who took the lesson using traditional method of teaching (lecturing method). The same topic was taught with the aid of duster white board and marker. This lesson used the lesson plan in appendix C. Post test (appendix H) was administered to the three groups in the last thirty minute of the contact hour.

The post-test was scored using the marking scheme (appendix I). This test served as indicator of students' performance throughout the experiment. The test results for the experiment and control groups were collected separately and subjected to statistical analysis.

3.6 Procedure for Data Analysis

In analyzing the data collected, descriptive statistics was used. Frequency distribution, mean and standard deviation were used to answer all the research questions, while t-test was used to test all the null hypotheses. For the questions, a mean difference was used while for the null hypotheses, where the calculated value is greater than critical table value, the hypothesis was rejected if otherwise, the hypothesis retained. All the hypotheses were tested at the 0.05 level of significance.

CHAPTER FOUR
PRESENTATION AND ANALYSIS OF DATA

This study investigated the effectiveness of computer-aided instruction such as Microsoft excel and power point presentation on students' academic performance in financial accounting in colleges of education in North West geo-political zone, Nigeria. This was with the view to determine the best computer-aided instructions to teach financial accounting in colleges of education.

The chapter is presented under the following sub-headings:

- 4.1. Demographic data
- 4.2. Answer to research questions
- 4.3. Test of null hypotheses
- 4.4 Major findings
- 4.5. Discussion of major findings
- 4.1. Demographic Data of Respondents

This was analyzed using the frequency and percentage as in table 3

Table 3. Percentage Analysis of Respondents by Gender

Gender	Frequency	Percentage
Male	66	56
Female	51	44
Total	117	100

Source: Field Study 2017

Based on table 3, it is seen that 66 male students representing 56% of the total sample participated in the study while 51 female students representing 44% also formed part of the study.

4.2. Answer to Research Questions

Research Question 1: What are the differences in the academic achievement scores of students taught financial accounting using Microsoft excel and those taught in the control group using chalk-board?

The answer to this question is provided in table 4.

Table 4: Mean Achievement Scores of Students Taught Financial Accounting Using Microsoft Excel and those Taught Using Chalk-board

Variable	N	Mean	Std.	Mean Diff.
Treatment group (taught with Microsoft Excel)	39	60.63	8.66	
Control group (taught with chalk-board)	39	42.12	7.10	18.15

Source: Field Study 2017

The above table shows that accounting students taught with chalk-board scored the mean of 42.12 with a standard deviation of 7.10 while those taught using Microsoft excel had a mean of 60.63 with a standard deviation of 8.66. This indicated a mean difference of 18.51 in favour of treatment group (Microsoft Excel). This, therefore, implies that teaching the students financial accounting using Microsoft excel enhances their performance.

Research Question 2: What are the differences in the academic achievement scores of students taught financial accounting using chalk-board and those taught using power point presentation?

The answer to this question is presented in Table 5.

Table 5: Mean Achievement Scores of Students Taught Financial Accounting Using Chalk-Boar board and those taught using power point presentation

Variable	N	Mean	Std.	Mean Diff.
Treatment group (taught with Power point Presentation)	39	56.12	7.34	
Control group (taught with chalk-board)	39	42.12	7.10	14

Source: Field Study 2017

The above table shows that accounting students taught with chalk-board scored the mean of 42.12 with a standard deviation of 7.10 while those taught using Microsoft excel had a mean of 56.12 with a standard deviation of 7.34. This indicated a mean difference of 14 in favour of treatment group (Microsoft Power-point). This, therefore, implies that teaching the students financial accounting using power-point presentation enhances their performance than using the chalk board.

Research Question 3: What are the differences in the academic achievement scores of male students taught financial accounting using Microsoft excel and those taught using power point presentation?

The answer to this question is presented in table 6.

Table 6: Mean Achievement Scores of Male Students Exposed to Microsoft Excel and those to power Point Presentations

Gender	Computer-aided Instruction	N	Mean	Standard Deviation	Mean Diff.
Male	Microsoft Excel	22	66	4.77	
Male	Power Point	22	53	5.01	13

Source: Field work 2017

The result in this table shows that male students who were exposed to Microsoft excel in teaching financial accounting had a mean score of 66 with the standard deviation of 4.77 as against power point presentation with the mean of 53 and the standard deviation of 5.01. This indicated a mean difference of 13 in favour Microsoft Excel. This implies that male students had a better performance in accounting when taught using Microsoft excels than the power point presentation.

Research Question 4: What are the differences in the academic achievement scores of female students taught financial accounting using

Microsoft excel and those taught using power point presentation?

The answer to this question is presented in table 7.

Table 7: Mean Achievement Scores of Female Students Exposed to Microsoft Excel and Those to power Point Presentations

Gender	Computer-aided Instruction	N	Mean	Standard Deviation	Mean Diff.
Female	Microsoft Excel	17	62	7.4	14
Female	Power Point	17	53	15.10	

Source: Field work 2017

In the female category, female students who were exposed to Microsoft excel in teaching financial account had a mean of 62 with a standard deviation of 7.4 as against the power point presentation with a mean of 53 with a standard deviation of 15.10. This indicated a mean difference of 14 in favour of Microsoft excel. This also implies that female students had a better performance in accounting when taught using Microsoft Excel than the power point presentation.

4.3. Test of Hypotheses

Hypothesis 1: There is no significant difference in the academic performance scores of students taught financial account using Microsoft excel and those taught in the control group using chalk board in colleges of education in the North West geo-political zone, Nigeria.

Table 8. Provides a summary of data raised to address this hypothesis

Table 8. A t-test Analysis of difference in Achievement Score of Students Taught Financial Accounting using Microsoft Excel and those taught using chalk Board

Variable	Mean	Std	t.cal	t-crit	Sig
Control group(taught with chalk-board)	42.12	7.10	4.32	2.24	0.00
Treatment group (taught with Microsoft Excel)	60.63	8.66			

Source: Field Study 2017

The above shows the comparative score of students taught accounting using Microsoft excel and those taught using chalk board. The students taught financial accounting using chalk board had a mean score of 42.12 with a standard deviation of 7.10 as against those taught financial accounting using Microsoft excel with a mean of 60.63 with a

standard deviation of 8.66. The t-cal was greater than t-crit (4.32 >2.24) and the significance value was 0.00, which signifies that the hypothesis was rejected.

Hypothesis Two: There is no significant difference in the academic performance scores of students taught financial accounting using power point and those taught in the control group using chalk-board in Colleges of Education in the North West Geo-political Zone, Nigeria?

Table 9. shows the analysis of the data obtained.

Table 9. A t-test Analysis of difference in Achievement Score of Students Taught Financial Accounting using Power Point Presentation and those taught using chalk Board

Variable	N	Mean	Std	t.cal	t-crit	Sig
Control group(taught with chalk-board)	39	42.12	7.10	3.3	2.24	0.014
Treatment group (taught with Power Point Presentation)	39	56.12	7.34			

Source: Field Study 2017

The above shows the comparative score of students taught accounting using Power Point and those taught using chalk board. The students taught financial accounting using chalk board had a mean score of 42.12 with a standard deviation of 7.10 as against those taught financial accounting using Power Point with a mean of 56.12 with a standard deviation of 7.34. The t-cal was greater than t-crit (3.32 >2.24) and the significance value was 0.014 which was less than 0.05 level of significance, signifies that teaching financial accounting using power point presentation had significant effect on the academic performance of students than the chalk board. In view of this, the hypothesis was rejected.

Hypothesis Three: There is no significant difference in the academic performance scores of male students taught financial accounting using

Microsoft excel and those taught using power point presentation.

Table 10 presented the analysis of data obtained.

Table 10. A t-test Analysis of difference in Achievement Performance Score of Male Students Taught Financial Accounting using Microsoft Excel and those taught using Power Point Presentation

Variable	Mean	Std	t.cal	t-crit	Sig
Microsoft Excel (Male)	66	4.77	4.5	2.24	0.00
Power Point Presentation(male)	53	5.01			

Source: Field Study 2017

In table 4.7, a t-test was conducted to compare the mean difference between the performance of male students taught financial accounting using Microsoft Excel and those taught using the power point presentation. The analysis revealed the mean 66 and standard deviation 4.77 for Microsoft excel against the mean 53 and standard deviation 15.01 for power point presentation respectively and the t-value 4.5 with a p-value of 0.00 which was less than the significant value (0.05). The result, therefore, indicated that the academic performance of male students are enhanced when they were taught using Microsoft excel than the power point presentation. Hence, the null hypothesis was rejected.

Hypothesis Four: There is no significant difference in the academic performance scores of Female students taught financial accounting using Microsoft excel and those taught using power point presentation.

Table 11 presented the analysis of data obtained.

Table 11. A t-test Analysis of difference in Achievement Performance Score of Female Students Taught Financial Accounting using Power Point and those taught using chalk Board

Variable	Mean	Std	t.cal	t-crit	Sig
Microsoft Excel (Female)	62	7.4	4.7	2.24	0.00
Power Point Presentation(Female)	53	15.10			

Source: Field Study 2017

In table 4.8, a t-test was conducted to compare the mean difference between the performance of female students taught financial accounting using Microsoft Excel and those taught using the power point presentation. The analysis revealed the mean 62 and standard deviation 7.4 for Microsoft excel against the mean 53 and standard deviation 15.10 for power point presentation respectively and the t-value 4.7 with a p-value of 0.00 which was less than the significant value (0.05). The result, therefore, indicated that the academic performance of female students are enhanced when they were taught using Microsoft excel than the power point presentation. Hence, the null hypothesis was rejected.

4.4 Discussions of Major Findings

The findings of research question one and null hypothesis one showed that teaching financial accounting with Microsoft excel had a positive effect on students' performance in financial accounting. This finding is in agreement with that of Arnold (2007) who observed that computer aided instruction is effective for learning because of its meaningful context in learning; also, Al-Sharaida (2011) affirmed that, particularly Microsoft excel is most effective way in training accounting students because of its easy working spread sheet; Demirel (2003), Sanni (2012) also affirmed that computer aided instruction such as Microsoft excel is effective and easy way of teaching financial accounting. Bingel (2010) had also found that, Microsoft excel has boosted students' performance more in financial accounting than just lecturing students with the chalk board.

In contrary, Bako (2010) found out that, students who are not well exposed to computer may find it difficult to understand the computer-aided instruction, especially the Microsoft excel. This opinion was supported by Odewumi (2013) who asserts that,

students who are not computer literate may find it difficult to understanding how financial accounting is presented in the Microsoft excel.

The finding of research question two and null hypothesis two revealed that power point presentation had a positive effect on students' performance in teaching financial accounting. This finding is in line with that of Tobias (2011) who found that, students who have interest in computer learn faster and desire to be computer literate learn faster than those who may not have the desire to use computer. Bingel (2010) also found that computer aided instruction helps students to learn faster. He further reported that a power point presentation on the computer facilitate learning than analogue of presenting learning.

The finding of research question three and null hypothesis three revealed that, there was significance difference in the mean performance of male students taught financial accounting using Microsoft excel and those taught using power point presentation. This agreed with the finding of Onojetachi (2012) that, male students under Microsoft excel learning environment had better performance than those who are not taught using power point presentation. The same with findings of Saliu (2011), Vhiriumi (2011), who found that, Microsoft excel increases performance of students in financial accounting because of its nature of spread sheet and cell made available to just enter the figures than the power presentation where the cell may be drawn by creation of tables.

Finally, the finding of research question four and null hypothesis four also, revealed that there was no significant difference in the mean performance of female students taught financial accounting using Microsoft excel and those taught using power point presentation. This is in line with result found by Lind, Morash, and Stevens (2001) that, women perform better in computer aided instruction.

CHAPTER FIVE

SMMARY, CONCLUSION AND REOMMENDATIONS

This chapter was presented under the following sub-headings;-

- 5.1 Summary
- 5.2 Contribution to Knowledge
- 5.3 Conclusion
- 5.4 Recommendations
- 5.5 Suggestions for further study

5.1 Summary

This research work was on effects of computer aided instruction on performance of business education students in financial accounting in Federal College of Education (Technical), Bichi, Kano State, Nigeria. The study had four specific objectives, four research questions, and four null hypotheses. The researcher adopted quasi-experimental design with pre-test, post-test, and control group. The population of the study was 886 NCE I business education students who offered financial accounting. One hundred and seventeen (117) students were used as the sample size for the study. Two instruments (Tests as pre-test and post-test) having the same features were used for data collection. The tests were marked using a drawn marking scheme (Appendix G and I). Mean score and standard deviation were used to answer the research questions. In the test of Null hypotheses, t-test statistic was used to test all the null hypotheses at 0.05 levels of significance. The study revealed that:-

1. Microsoft excel had an effect on students' performance in financial accounting with a mean of 60.63 and t-cal. of 4.32 greater than t-crit of 2.24. This means that Microsoft excel increases students' performance in financial accounting over chalk board method of teaching.

2. Power point presentation method of teaching financial accounting had significant effect on students' performance than the chalk board method of teaching financial accounting.
3. male students taught financial accounting using micorsoft excel perform better than those taught financial accounting using power point presentation
4. female also perform better in financial accounting when taught with Microsoft excel than the power point presentation.

5.2. Contribution to knowledge

The study established that;

1. Microsoft excel had effect on the performance of business education students in financial accounting in the federal college of education (technical), Bichi, Kano ($p = 0.000$).
2. Power Point Presentation had effect on the performance of business education students in financial accounting in the federal college of education (technical), Bichi, Kano ($p = 0.001$).

5.3 Conclusion

Since the major findings of this study shows that, both Microsoft excel and power point presentation had positively affected students' performance in financial accounting, it could be concluded that, Microsoft excel and power point presentation will improve students' achievement and change the ugly failure rate in Financial Accounting achievement test. The good results obtained by the students will affect their final results which may encourage employers to engage them when they leave school.

5.4 Recommendations

Based on the outcome of the study, the following recommendations were made.

1. In order to make students develop more interest in the use of computer, financial accounting should be taught by the teachers using Microsoft excel and power point presentation instead of using the normal or traditional chalk board.
2. Adequate computers should be provided by the school authority where by each student will be made to use one computer from year one to year three.
3. Financial accounting teachers should be properly and adequately trained and re-trained by the school authority on how to use the accounting computer packages. This will facilitate them to teach well using the accounting computer packages.

REFERENCES

- Aduwa, S. E. (2004). Dynamising the Instructional System: An inquiry for effective childhood education in Nigeria. *Nigerian Journal Curriculum Studies*, 11(2), 239–245.
- Agboh, C. I. (2015). Effects of Computer Assisted Instructional Technique on Students' Achievement in Financial Accounting in Colleges of Education in Southeast Nigeria. *Research Journal of Finance and Accounting*, 6 (20) 2222-2847.
- Akinbobola, A. O. (2006). "Effects of Cooperative and Competitive Learning Strategies on Performance of Students in Physics." *Journal of Research in Education*, 3 (1) 1-5.
- Akintelure, S.L. and Oguobi, J.I. (2003) Comprehensive Financial Accounting for Senior Secondary Schools: Lagos, Johnson publisher Limited.
- Akpofo, R. E. O, & N'dip, B .L. (2000). National standards and quality control in Nigerian Education. *The state of education in Nigeria*. UNESCO, Abuja.
- Al- Sharaiden, S. T. S. (2011). The Impact of Using Computer-Assisted Programs for Teaching Education in Jordanian schools *Interdisciplinary Journal of Contemporary Research in Business*, 3 (8): 860-865.
- Ali, S., Haider, Z., Munir, F., Khan H. and Ahmad, A. (2013). Factors Contributing to the Students' Academic Performance: A case study of Islamia University Sub-Campus. *Science and Education Publishing from Scientific Research to Knowledge*. Retrieved from education.ufl.pubs.sciepub.com/education/1/8/3/.
- Arnold, D. N. (2007). "Computer Aided-Instruction" Microsoft ® Student (DVD), Redmond. WA. : Microsoft Corporation.
- Atanda, A. and Jaiyeola, A. (2011). Effects of school-Based Quality Factors on Secondary School Students' Achievement in English Language in South-Western and North-Central Nigeria. *Journal of Emerging Trends in Education Research and Policy Studies*, 2 (2): 93-99.
- Attah, M. (2002). Problems of Equipment in teaching Secretarial Course at Tertiary Institutions. *Journal of Business Education*, 3 (2): 61-70
- Azih, N and Nwosu, B. O. (2011). "Effects of Instructional Scaffolding on the Achievement of Male and Female Students in Financial Accounting in Secondary Schools in Abakaliki Urban of Ebonyi State, Nigeria." *Current Research Journal of Social Sciences*, 3 (2) 66 - 70.
- Azih, N. (2012). Modern Accounting Skills Required By Accounting Education Students; A Re-Appraisal. *Association of Business Educators of Nigeria*, 2 (1): 245-251.
- Bako, D. H. and Odewumi, A. (2012). Information and Communication Technology: An Indispensable Tool for Effective Teaching and Learning of Business Education. *Journal of Business Education in Vocational Education*, 1 (2): 135-140

- Battle, J., & Lewis, M. (2002). The increasing significance of class: The relative effects of race and socioeconomic status on academic achievement. *Journal of Poverty*, 6(2), 21-35.
- Berge, B. L. (1995). *Qualitative Research Methods for the Social Sciences*. Needham Heights Mass.
- Bingel, G. M. (2010). Influence of Computer Aided-Instruction (CAI) on Teaching and Learning Vocational and Technical Education in Senior Secondary Schools in Sokoto State. Unpublished M. Ed. Thesis, Ahmadu Bello University, Zaria, Nigeria.
- Boyle, D. and Dunleavy, K. (2003). ‘Learning Styles and Academic Outcome, The Validity and Utility of Vermunts Inventory of Learning Styles in a British Higher Education Setting.’ *British Journal of Educational Psychology*, 73 (2) 267 – 290.
- Chambers, J. A. and Sprecher J. W. (1983). Meta-Analysis of the Effectiveness of Computer-Aided Instruction. Retrieved March 10, 2013 from scholar. Lib.vt.edu/thesis/available/etd-6398-20243/k.../chapter-II.pdf
- Chang, M. (2012). Academic Performance of Language-Minority Students and All-days Kindergarten: *A Longitudinal Study*. *School Effectiveness and School Improvement*, 23(1): 21-48.
- Considine, G. & Zappala, G. (2002). Influence of social and economic disadvantage in the academic performance of school students in Australia. *Journal of Sociology*, 38, 129-148. Retrieved on August 16, 2007 from <http://jos.sagepub.com>
- Crosnoe, R., Monica, K. J and Glen, H .E .Jr. (2004). School size and the interpersonal side of education: An example of Race/Ethnicity and organizational context. *Social Science Quarterly*, 85(5).
- Darling – Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Educational Policy Analysis Archives*, 8(1).
- Eamon, M.K (2005). Social demographic, school, neighborhood, and parenting influences on academic achievement of Latino young adolescents. *Journal of Youth and Adolescence*, 34(2), 163-175.
- Eben, A. and Ayaba, H. (2009). Tertiary Students’ View on Information and Communication Technology Usage in Ghana. *Journal of Information Technology Impact*, 9 (2): 81-90.
- Ekpenyong, I. E., Ogbeide, I. G. and Robinson, O. O. (2012). Emerging Challenges in Information and Communication Technology in Business Education. *Journal of Association of Business Educators of Nigeria*, 2 (1): 12-17.
- Escarce, J. J (2003). Socioeconomic status and the fates of adolescents. Retrieved on September 27 2007 from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid>.

- Graetz, B. (1995), Socio-economic status in education research and policy in John Ainley et al., Socio-economic Status and School Education DEET/ACER Canberra.
- Hanger, S. and Becker, D. (2005). Classroom Assessment and Accounting Students' Performance. *International Journal of International and Learning* 2(1), 36-46.
- Ibitoye, S.A (2003). *Relationship among school size, resource utilization and school effectiveness in Ilorin Local Government Areas, Kwara State*. Unpublished M. Ed thesis. University of Ilorin.
- Ibrahim, S. (2008). Information and Communication Technology and Business Teacher Education. The Need to Bridge the Gap. *Journal of Educational Research and Development*, 3 (2): 131-137.
- Ibrahim, S. (2011) Impact of Accounting Background, Gender, and Motivation on Performance of Business Education Students in Introductory Accounting in Federal Universities in Nigeria. An unpublished Doctorate Dissertation presented to the School of Postgraduate Studies, Ahmadu Bello University, Zaria.
- Ibrahim, S. (2012). Effects of Motivation on Introductory Accounting Performance of 100-Level Business Education Students of Ahmadu Bello University, Zaria. *Journal of Vocational Studies*, 6 (1): 1-6
- Igben, R.O. (2007). Financial Accounting Made Simple: Lagos; ROI Publishers.
- In brief (2012). *Computer Assisted Instruction and Learning Issues*. Retrieved from www.computing.dcu.ie/~mward/mthesis/chapter2.pdf
- Iyamu, E.O.S. (2005). Parents' and teachers' perception of selection as a factor of quality in the curriculum process in Nigeria. *International Education Journal*, 6(1) 96-103.
- Jebson, S. J. and Moses, A. N. (2012). Relationship Between Learning Resources and Students' Academic Achievement in Science Subjects in Taraba State. *Ifè Psychology journal*, 20 (1): 48-55.
- Jegede, P. O. and Josiah, O. A. (2003). Computer Education in Nigerian Secondary Schools. Gaps Between Policy and Practice. A middle School Computer Technologies. *Journal of State University, Redmond, NC*, 6 (2): 180-188.
- Kerlinger, F. N. and Howard, B. L. (2000). *Foundations of Behavioural Research* (4th ed.). Forth Worth T X: Harcourt College Publishers.
- Jeynes, William H. (2002). Examining the effects of parental absence on the academic achievement of adolescents: the challenge of controlling for family income. *Journal of family and Economic Issues* 23(2).
- Kwesiga, C.J. (2002). Women's access to higher education in Africa: Uganda's experience. Kampala: Fountain publishers Ltd.

- Lage, M. J., Platt, G. J. and Treglia, M. (2000). Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment. *Journal of Economics Education*,(1): 30-43.
- Longe, O. A. and Kazeem, R. A.(2010). *Essential Financial accounting for Senior Secondary School*. Ogun, Tonald Publishers Limited.
- Makori, A. and Onderi, H. (2013). An Evaluation of Secondary School Principals' Perception of Learning Resources in Free Secondary Education Era in Kenya. *African Educational Research Journal*, 1 (3): 171-182.
- Mark, G. (2010). What Aspect of Schooling Are Important? School Effects on Tertiary Entrance Performance. *School Effectiveness and School Improvement*,21 (3): 267-287.
- McDonald, A.S, Newton, P.E, Whetton, Cand Benefield, P. (2001). Aptitude testing for University Entrance: A literature review. National foundation for educational Research.
- National Commission for Colleges of Education (2002). Minimum Standards for Nigeria Certificate in Education (Vocational and Technical Education) Revised Edition.
- Nouri, H. and Shahid, A. (2005).*The Effect of Power Point Presentations on Students' Learning and Attitude, Global Perspectives on Accounting Education*. Retrieve August 1, 2006, from <http://gpae.bryant.edu/-gpae/content.htm>.
- Ogiegbaend, S. E. and Iyamu, E. O. (2005).Using Information and Communication Technology in Secondary Schools in Nigeria, Problems and Prospects. A Paper Presented in the Department of Psychology and Curriculum Studies, University of Benin, Nigeria.
- Okebukola, P. (1997). Old, New and Current Technology in Education. *UNESCO Africa*, 14 (15): 7-18.
- Okorie, N. (2010). *ICT and Educational Performance: The Inter-Relationship of Selected Critical Variables*. Retrieved December 20, 2010 from www.itdl.org/journal/may10/article03.htm.
- Onojetachi, S. O. (2012). Challenges of Implementing Business Education Programme Through ICT. *Journal of Association of Business Educators of Nigeria*,2 (1):156-158.
- Oregon State University (2003). Graduate admissions policy proposal. Retrieved November 23, 2006 From <http://eepm.orst.edu/dept/senate/committees/aac/agen/reports/20030115.html>.
- Orjika, M. O. (2012). "Effect of Computer Assisted Instruction Packages on Secondary School Students Achievement and Interest in Biology." *Unpublished M.Ed. Thesis*, Submitted to the Department of Science Education, Nnamdi Azikiwe University, Awka, Anambra State.
- Orlansky, J. and String, J. (1999). Cost Effectiveness of Computer Based Instruction in Military Training. Washington DC ; Institute for Defense Analysis.

- Osakwe, N. R. (2010). *“The Influence of Information and Communication Technology (ICT) on Teacher Education and Professional Development in Delta State, Nigeria”*. Retrieved October 22, 2010 from <http://medwelljournals.com/abstract/?doi=ajit.2010>.
- Osuala, E. C, (2000). *Business management*. Onitsha: Cape Publishers International Ltd.
- Osuala, E.C. (2004). *Foundation of vocational education* (5th ed).Enugu: Cheston Agency Ltd.
- Otoo, D. (2007). *Comparative Study of Academic Performance of Public and Private JSS Graduate: A Case Study Of Four Selected Senior Secondary Schools in the Kumasi Metropolis*. M.ED Educational Administration and Management Thesis. Centre for Educational Policy Studies University of Education, Winneba
- Principe, H. R. (2005). *Factors Influencing Students’ Academic Performance in The First Accounting Course: A Comparative Study Between Public and Private Universities in Puerto Rico*. Unpublished Ph.D. Dissertation. School of Business and Information Technology, Argosy University. Retrieved March10, 2013, from <http://www.ponce.interedu/cal/tesis/hrodriguez/index.pdf>.
- Raymond, U. (2005). *A Comparative Analysis of Two Methods of Teaching Financial Accounting at Senior Secondary School*. Retrieved June 17, 2013, From <http://file:/p/comparativeanalysisisthesis.htm>.
- Reddy, P and Talcott, J. (2006). Predicting university success in psychology: Are subject-specific skills important? Retrieved on July 4, 2008. from <http://www.aston.ac.uk/downloads/ihs/pee/lea/huw2006p.pdf>.
- Salomon, G. (1989). Computers in Curriculum. In M. Erant (Edition), *The International Encyclopedia of Educational Technology*, Oxford; Pergamon Press, 167-170.
- Sambo, A.A. (2005). *Research Method in Education*. Lagos Stilling Publishers (Nig) Limited.
- Sani, A. (2012). Information and Communication Technology: Issues Challenges for Sustainable Educational Development in Nigeria. *Journal of Vocational and Technical Education*, 7 (1): 67-70.
- Saxton, J. (2000). Investment in education: Private and public returns. Retrieved from <http://www.house.gov/jec/educ.pdf>.
- Sentamu, N.P. (2003). School’s influence of learning: A case of upper primary schools in Kampala & Wakiso Districts.
- Sithole, B. M. and Nhete, T. (2016). Prospects for Computer-Assisted Teaching and Learning in Secondary School Accounting Classroom. *Asian Journal of Management Sciences & Education*: 5 (3).

- Slepian, S. (2005). *Behavioural Aspect of the Inflation Accounting Controversy: Accounting and Business Research*, Spring.
- Stanley, T. and Edward, P. (2005). Interactive Multimedia, Teaching of Accounting Information System (AIS) Cycl: Students' Perceptions and Views. *Journal of Accounting Education*, 23(1): 21-46.
- Teodorovic, I. (2011). Classroom and School Factors Related to Students' Achievement: What Works for Students? *School Effectiveness and School Improvement*, 22 (2): 215-226.
- Tobia, B. N. (2011). Effects of Using Information and Communication Technology in Teaching Accounting in Colleges of Education in Kaduna State. Unpublished M. Ed. Thesis. Ahmadu Bello University, Zaria, Nigeria.
- Ugo, P. (2017). Effects of Computer Assisted Instruction on Students' Achievement in Agricultural Science in Secondary Schools in Bayelsa State *International Journal of Educational Benchmark (IJEb)*, 6 (1):2489-4162
- Udoh, A.A. (2004). *Fundamentals of Financial Accounting*. Zaria; Isola Olu and sons.
- Umar, R. T. 2012). Attitude of Business Education Students Towards Teaching Profession. *Journal of Business Educators Association in Vocational Education*, 1(1): 74-81.
- UNESCO, (2001). UNESCO Report: Teacher Education Through Distance Learning: Values, Different Understanding. C T E Technical Report 6. Educational Development.
- Wimmer, R. D. and Domnick, J. R. (1987). *Mass Media Research; An Introduction*, Belmont California: Wadsworth Publishing Company.
- Yusuf, M. O. (2009). "Effects of Video Tape and Slide Instruction on Students' Performance in Social Studies in Some Junior Secondary Schools." *An unpublished Ph.D Thesis*, University of Ilorin.
- Yusuf, M. O. and Afolabi, A. O. (2010). Effects of Computer Assisted Instruction (CAI) on Secondary School Students' Performance in Biology. *Turkish Online Journal of Educational Technology*, 9 (1): 62-69.
- Zwick, T. (2012). Determinants of Individual Academic Achievement – Group Selectivity – Effects Have Many Dimensions. Zaw Discussion Paper. Retrieved March 10, 2013, from <http://hp.zaw/pub/docs/dp/dp12081.pdf>.

APPENDIX A

Performance Rate in Percentage of NCE I students of Federal College of
Education (Technical) Bichi in Financial Accounting from 2010 – 2016.

Year	Number in Class	Pass Rate in Percentage (%)
2010	172	68
2011	136	66
2012	233	58
2013	356	59
2014	460	56
2015	416	47
2016	350	42

Source: Examination office of School of Secondary Education (Business).

APPENDIX B



DEPARTMENT OF VOCATIONAL & TECHNICAL EDUCATION
AHMADU BELLO UNIVERSITY, ZARIA NIGERIA
FACULTY OF EDUCATION

Telephone: 069-51755, 50692

Vice Chancellor: Professor, Abdullahi Mustapha B.Sc. (Hons) Pharm(ABU), Ph.D (London) FPSN

Head of Department: Professor A.A Udoh B.Ed. (Hons) Nsukka M.Ed. & Ph.D Bus Edu. (ABU)

Our Ref: _____
M.Ed/Educ/23446/2012-2013

7th May, 2015

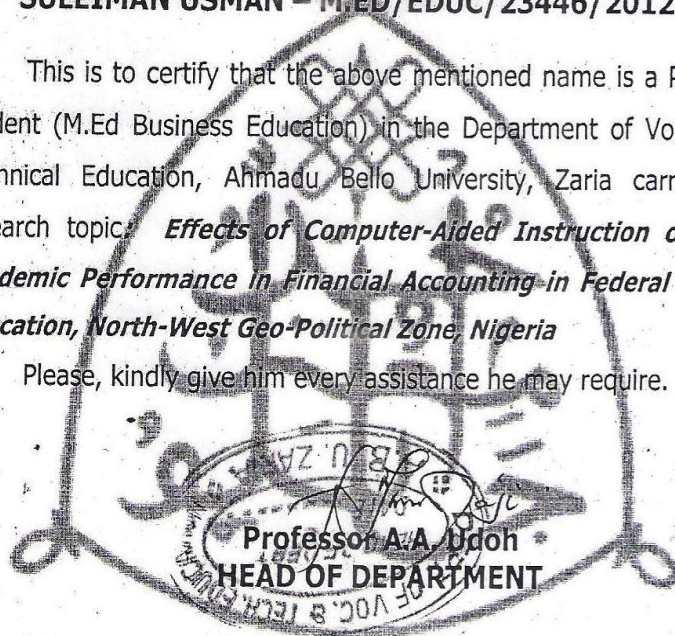
Our Ref: _____ Date: _____

Letter of Introduction

SULEIMAN USMAN – M.ED/EDUC/23446/2012-2013

This is to certify that the above mentioned name is a Postgraduate student (M.Ed Business Education) in the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria carrying out a research topic: *Effects of Computer-Aided Instruction on Students Academic Performance in Financial Accounting in Federal Colleges of Education, North-West Geo-Political Zone, Nigeria*

Please, kindly give him every assistance he may require.



APPENDIX C

LESSON PLAN FOR TRADITIONAL METHOD

Course: Bookkeeping I (Principles of Account I (BED 111))

Level: N C E I

Topic: Two Column Cash Book

Duration: 2 Hours

Instructional Materials: Board, Financial Accounting Text Book, Duster and Chalk.

Behavioural Objective: At the end of the lesson, students should be able to;

- i. define Cash Book
- ii. state the uses of Cash Book
- iii. differentiate between receipt and payment
- iv explain contra entry and
- v balance off Cash Book

Entry Behaviour: The students have been introduced to ledger entries.

Introduction: The students were asked to list types of transactions. These include cash and credit transactions.

Presentation: The teacher presents the lesson as follows:

Step I: The students are to explain the features of cash transaction and credit transaction.

The teacher explains Cash Book as the book for recording detailed particulars of all

money received and paid either in cash or by cheque. Cash book serves two purposes; as a subsidiary book and a principal book.

Step II: The students are presented with the Cash Book format and were asked to determine the receiving (Dr) and giving (Cr) sides. The teacher explains contra entry and how

it is posted. Contra entries are made in the Cash book when cash is deposited

into the bank account or when cash is withdrawn from the bank for office use.

Step III: Exercise was presented to the students. The teacher answers the exercises together with the students on the board. Students are to be invited to determine the side each transaction will be recorded and why.

Step IV: The exercises will be balanced off after the teacher explains the meaning of different balances; Balance Brought Forward (b/f), Balance Carried Forward (c/f) and Balance Brought Down (b/d).

Evaluation: The teacher evaluates the lesson by asking the students to explain the uses of Cash

Book and contra entries.

Conclusion: The teacher concludes the lesson by allowing the students to ask questions for better understanding and he provides answers.

Assignment: The teacher gives the students an exercise to answer.

APPENDIX D

LESSON PLAN FOR COMPUTER MICROSOFT EXCEL

Course: Bookkeeping I (Principles of Account I (BED 111)

Level: N C E I

Topic: Two Column Cash Book

Duration: 2 Hours

Instructional Materials: Board, Computer and Projector

Behavioural Objective: At the end of the lesson, students should be able to;

- i. define Cash Book
- ii. state the uses of Cash Book
- iii. differentiate between receipt and payment
- iv explain contra entry and
- v balance off Cash Book

Entry Behaviour: The students have been introduced to ledger entries.

Introduction: The students were asked to list types of transactions. These include cash and credit transactions.

Presentation: The teacher presents the lesson as follows:

Step I: The students are to explain the features of cash transaction and credit transaction. The teacher explains Cash Book as the book for recording detailed particulars of all money received and paid either in cash or by cheque. Cash book serves two purposes; as a subsidiary book and a principal book.

Step II: The students are presented with the Cash Book format projected on the board using Excel and were asked to determine the receiving (Dr) and giving (Cr) sides. The teacher explains contra entry and how it is posted.

Contra entries are made in the Cash book when cash is deposited into the bank account or when cash is withdrawn from the bank for office use.

Step III: Exercise was presented to the students on the board. The teacher answers the exercise together with the students with the aid of Microsoft Excel (spread sheet). Students are to be invited to determine the side each transaction will be recorded and why.

Step IV: The exercises will be balanced off after the teacher explains the meaning of different balances; Balance Brought Forward (b/f), Balance Carried Forward (c/f) and Balance Brought Down (b/d).

Evaluation: The teacher evaluates the lesson by asking the students to explain the uses of Cash Book and contra entries.

Conclusion: The teacher concludes the lesson by allowing the students to ask questions for better understanding and he provides answers.

Assignment: The teacher gives the students an exercise to answer.

APPENDIX E

LESSON PLAN FOR MICROSOFT POWER-POINT

Course: Bookkeeping I (Principles of Account I (BED 111)

Level: N C E I

Topic: Two Column Cash Book

Duration: 2 Hours

Instructional Materials: Board, Computer, and Projector

Behavioural Objective: At the end of the lesson, students should be able to;

- i. define Cash Book
- ii. state the uses of Cash Book
- iii. differentiate between receipt and payment
- iv explain contra entry and
- v balance off Cash Book

Entry Behaviour: The students have been introduced to ledger entries.

Introduction: The students were asked to list types of transactions. These include cash and credit transactions.

Presentation: The teacher presents the lesson in slides as follows:

Step I: The students are to explain the features of cash transaction and credit transaction. The teacher explains Cash Book as the book for recording detailed particulars of all money received and paid either in cash or by cheque. Cash book serves two purposes; as a subsidiary book and a principal book.

Step II: The students are presented with a slide showing the Cash Book format and were asked to determine the receiving (Dr) and giving (Cr) sides. The teacher explains contra entry and how it is posted on another slide. Contra

entries are made in the Cash book when cash is deposited into the bank account or when cash is withdrawn from the bank for office use.

Step III: Exercise was presented to the students. The teacher shows posting of each transaction on different slide to answers the exercise together with the students. Students are to be invited to determine the side each transaction will be recorded and why.

Step IV: The exercises will be balanced off after the teacher explains the meaning of different balances; Balance Brought Forward (b/f), Balance Carried Forward (c/f) and Balance Brought Down (b/d).

Evaluation: The teacher evaluates the lesson by asking the students to explain the uses of Cash Book and contra entries.

Conclusion: The teacher concludes the lesson by allowing the students to ask questions for better understanding and he provides answers.

Assignment: The teacher gives the students an exercise to answer.

APPENDIX F
PRE-TEST QUESTION

You are required to complete the following table showing which account to be debited and those to be credited.

1. Started business with money in cash
2. Deposited part of the opening cash into the bank.
3. Bought goods on credit from Bako.
4. Sold goods on credit to Zainab
5. A lorry belonging to business was sold for cash
6. Purchased goods paid by cheque.
7. Zainab returned goods to us.
8. We returned goods to Bako
9. Dauda lent us cash
10. Received commission in cash

APPENDIX G

MODEL ANSWERS/MARKING SCHEME FOR PRE-TEST

S/N	ACCOUNT TO BE DEBITE	ACCOUNT TO BE CREDITED
1	Cash	Capital
2	Bank	Cash
3	Purchases	Bako
4	Zainab	Sales
5	Cash	Lorry
6	Purchases	Cash
7	Returns Inwards	Zainab
8	Bako	Returns Outwards
9	Cash	Dauda
10	Cash	Commission

Correct posting for each transaction carries 1 mark.

1 mark x 10 = 10 marks

APPENDIX H

POST-TEST QUESTIONS

Write up a two column cash book of Aisha from the following details and balance off as at the end of the month for the year 2013.

- April 1 Started business with N3,000 cash
- “ 2 Paid rent by cash N70
- “ 3 Received loan from Sadiq N500 by cheque
- “ 5 We paid Bello by cheque N165
- “ 6 We paid general expenses in cash N300
- “ 9 Withdrew N1,000 from cash till and paid it into the bank account
- “ 10 Cash sale paid into the bank account N3,000
- “ 12 Banked cash N900
- “ 14 Cash purchases N500
- “ 16 Bought goods by cheque N130
- “ 19 Commission received by cheque N501
- “ 21 Bought motor van by cheque N60
- “ 22 Cash drawings by the proprietor N21
- “ 24 We paid Ahmad for the goods bought N250- N150 in cash; N100 by cheque
- “ 26 Wages paid in cash N35
- “ 27 Bought stationery paying by cash N75
- “ 28 Withdrew N105 from bank for private use
- “ 30 Rent received by cheque N45
- “ 31 Cash sales N1,000

APPENDIX I

MODEL ANSWER/MARKING SCHEME FOR POST-TEST

**AISHA'S
TWO COLUMN CASH BOOK AS AT APRIL 30TH 2012**

DATE	PARTICULAR	FOLIO	CASH	BANK	DATE	PARTICULAR	FOLIO	CASH	BANK
			₦	₦				₦	₦
1-Apr	Capital		3,000		2-Apr	Rent		70	
3-Apr	Loan			500	5-Apr	Bello			165
9-Apr	Cash	C		1000	6-Apr	Gen Exp.		300	
10 Apr	Sales			3000	9-Apr	Bank	C	1000	
12-Apr	Cash	C		900	12-Apr	Bank	C		900
19-Apr	Commission			501	14-Apr	Purchases		500	
30-Apr	Rent			45	16-Apr	Purchases			130
30-Apr			1000		21-Apr	Motor Van			60
					22-Apr	Drawings		21	
					24-Apr	Ahmad		150	100
					26-Apr	Wages		35	
					27-Apr	Stationery		75	
					28-Apr	Drawings			105
					30-Apr	Bal. c/d		949	5386
			4000	5946				4000	5946
	Bal. b/d		949	5386					

1 mark x 30 entries including the totals = 30 marks