EFFECTS OF GUIDED-DISCOVERY AND PROBLEM-SOLVING TEACHING METHODS ON STUDENTS' ACADEMIC PERFORMANCE IN FINANCIAL ACCOUNTING IN COLLEGES OF EDUCATION, NORTH CENTRAL, NIGERIA

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DECEMBER, 2019

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BEING A DISSERTATION SUBMITTED TO THE DEPARTMENT OF BUSINESS AND ENTREPRENEURSHIP EDUCATION IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D) IN BUSINESS EDUCATION, COLLEGE OF EDUCATION, KWARA STATE UNIVERSITY, MALETE, NIGERIA

DECEMBER, 2019

DECLARATION

I declare that the work in this thesis titled "Effects of Guided-Discovery and Problem-Solving Teaching Methods on Students' Academic Performance in Financial Accounting in Colleges of Education, North Central, Nigeria" has been carried out by me in the Department of Business and Entrepreneurship Education. The information derived from the literature has been duly acknowledged in text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other institution.

……...…… **…….**

Seyi DAVID **Date**

CERTIFICATION

This thesis titled "Effects of Guided-Discovery and Problem-Solving Teaching Methods on Students' Academic Performance in Financial Accounting in Colleges of Education, North Central, Nigeria" by Seyi DAVID meets the regulations governing the award of degree of Doctor of Philosophy (Ph.D) in Business Education, Kwara State University, Malete, and is approved for its contributions to knowledge and literary presentation.

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DEDICATION

This thesis is dedicated to Almighty God, the essence of my being. It is also dedicated to my wife, Mrs. Eunice David (MINE).

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LIST OF ABBREVIATIONS

FCE:	Federal College of Education
COE:	College of Education
GDTM:	Guided Discovery Teaching Method
PSTM:	Problem Solving Teaching Method
LM:	Lecture Method
NCCE:	National Commission for Colleges of Education
FAAT:	Financial Accounting Achievement Test
Df:	Degree of Freedom
SD:	Standard Deviation
SPSS:	Statistical Package for Social Sciences.

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Abstract

The study was carried out to examine the effects of guided-discovery and problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The study had four specific purposes. In line with the specific purposes, four research questions were raised while four null hypotheses were formulated to guide the study. Related literatures and empirical studies were reviewed. The study used quasi-experimental research design. The population of the study was 8,923 Business Education students in Colleges of Education, North Central, Nigeria. Purposive sampling technique was used to select 789 NCE II students as respondents in the study. A researcher self-developed Financial Accounting Achievement Test (FAAT) was used in collecting data for the study. The instrument was face and content validated by experts. A pilot test was carried out at FCT College of Education, Zuba. Spearman Rank Order Correlation Coefficient was used to determine the internal consistency of the instrument. The data collection period lasted for six weeks. The data collected for the study was analysed using mean and standard deviation to answer the research questions, t-test statistic was used to test null hypotheses one, two and three while null hypothesis four was tested using ANOVA and Scheffe Post Hoc Pairwise Comparison test. All the null hypotheses were tested at 0.05 levels of significance. The study revealed among others that there is a significant effect of guided-discovery, problem-solving and lecture teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. It was concluded that different teaching methods draw attention to different learning outcomes. Students who work in problem- solving classes and guided-discovery classes are exposed to higher level of reasoning and they accept this reasoning as valid. Contrarily, in the control group where the lecture method was employed; students generally interacted with the teacher which led to a lower achievement level. Based on the findings obtained in the study and conclusion drawn, the researcher made recommendations among others that usage of guided-discovery and problem-solving teaching methods by lecturers of Financial Accounting most especially at Colleges of Education as a matter of policy should be encouraged.

CHAPTER ONE

INTRODUCTION

Background to the Study

Teaching which is the primary function of teachers is involves passing instructions, transmitting knowledge, facts, skills, interests, and aptitude. Modebelu (2017) defines teaching as an activity comprising of a set of actions and programmes planned and targeted towards inculcating learning through conscious and deliberate efforts of a teacher. A teacher in this situation is expected to be a core professional who consciously and deliberately utilizes his or her wealth of experience, skills, competencies, attitudes, interest and mastery of the subject matter to facilitate learning in students. The product of teaching is learning activities i.e. knowledge acquisition.

Teaching and learning process is a two-way traffic affair where the teacher sends out the message while the students acknowledge through feedback, but this give and take processes could only be effective when the teaching methods are appropriate. Teaching method refers to the manner of transmitting facts, skills, information and knowledge by the teacher/instructor, so as to engage students in meaningful activities for learning and to achieve the objective of the lesson (Joe, 2014). Also, Ajoma (2017) views teaching method as professional technique that teachers adopt regularly in instructional exercises to enable them impart relevant knowledge and skills to the learner. Financial Accounting teachers also employ various teaching methods to impact knowledge.

Financial Accounting is the process of identifying, measuring, recording, and communicating an organization's economic activities to users for decision making (Dauderis & Annand, 2014). According to Asaolu (2002), Financial Accounting is the process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to the users for objective assessment and decision making.

Accounting data are processed into accounting information through the use of accounting principles and conventions. They are the basic fundamentals which guide accountants in recording, appreciating and assessing accounting information as well as the preparation and interpretation of financial statements. Accounting information system is proven, time honored, and its format is universally understood. Books of accounts prepared by accountants in one part of the world are easily understood by their counterparts in other parts of the world because the information system is based on the principles that are widely accepted and globally used. In the light of this, Financial Accounting is one of the courses offered in all Colleges of Education in Nigeria as spelt out by the national minimum standard (NCE curriculum).

According to the National Commission for Colleges of Education (2012), NCCE the objectives of studying Business Education in Nigerian Colleges of Education are as follows: To produce well qualified and competent graduates in business education, produce N.C.E business teachers who will be able to inculcate the vocational aspects of business education into the society, to produce N.C.E business teachers who will be involved in the much desired revolution of vocational development right from primary and secondary schools, and to equip students with necessary competencies so as to qualify them for a post-NCE degree programmme in business education.

In attempt to achieve the stated objectives by NCCE, business education teachers including Financial Accounting teachers employ various teaching methods in the teaching and learning processes. Ezenwosu and Nworgu (2013) stated that most teachers adopted traditional lecture method which is an oral presentation of ideas, concepts and principles to the students. Jimoh (2014) explained that lecture method is an instructional strategy which affords teacher the opportunity to present a wide content to a large class of students with little or no interaction among students and even the teacher. Azih and Nwosu (2011) indicated that

student-centred methods which are characterized by active involvement of students in the teaching and learning process could be the important factor for improving students' performance in accounting. Student-centred methods include: Socratic Method, Problem Based Method, Guided Discovery Method, Case Study Method, Discussion Method among others (Attard, 2010).

Guided-discovery is a teaching method that enables learners to create their own learning experience, with the guidance of their teachers. This method has recently been emphasized in teaching. It has been identified as providing meaningful learning and thus teachers are encouraged to use them. A guided-discovery method involves an unstructured exploration in some problem-solving experiences in which students can draw general conclusions from data gathered through measuring, classifying, inferring, predicting, communicating, analyzing, clarifying, describing and formulating relevant questions (Moses, 2013). Discovery method is a teaching technique that encourages students to take a more active role in their learning process by answering series of questions or solving problems designed to introduce general concepts (Mayer 2014). Discovery method therefore refers to how much guidance a teacher should give students in learning Financial Accounting at NCE level. Furthermore, guided discovery method of teaching; problem solving method of teaching can also be employed in teaching Financial Accounting.

Problem-solving competencies are the knowledge, skills and general disposition or attitudes which individuals need, to be able to identify and tackle observed or perceived problems in the environment with a view to finding solutions to them. An individual with the requisite knowledge, skills and disposition to identify and solve a problem is said to be competent in that area of socio-economic life (Smith in Ishaku, 2015). A number of problem-solving models have been proposed in the learning of different aspects of vocational education (Financial Accounting inclusive). A teacher of Financial Accounting

can use any method of teaching, most especially guided discovery or problem solving teaching methods. The primary objective is to bring about better academic performance in the learners after the teaching and learning encounter.

Academic performance refers to what students achieve in their studies and how they cope with or accomplish different learning experiences expected of them by their teachers. Ibrahim (2011) reports that in educational institutions, success is measured by academic performance, or how well a student meets the standards set out by the institution. Academic performance according to Morgan (2010) is an assessment strategy by which the evidence about students learning is gathered through students work on a performed task. It is an observable or measurable behavior of a person in a particular situation usually experimental situation. This therefore means that performance measures the behaviors or an aspect of a feat that can be observed at a specific period. Students' performance is very important because, it appears to be the major criterion by which the effectiveness and success of any educational institution could be judged. Considerable research evidence shows that poor academic performance at the secondary level of education, at times, is a product of the teacher, school and home environment factors among others.

Academic achievement is the outcome of education, that is, the extent to which a student, teacher or institution has achieved their educational goals. According to Jimoh, Idris and Olatunji (2016), academic achievement is the degree of success attained by students after being exposed to one form of learning or the other. Jimoh (2014) confirms that academic achievement is the level of success attained by students in school subjects. Ezenwosu and Nworgu (2013) noted that academic achievement is commonly measured using classroom exercise, assignment and continuous assessment as well as internal and external examination. It can be used to indicate students' level of success in a particular task students were previously exposed to and it can also be used as indices for determining students' ability to

effectively undertake another task (Jimoh, 2014).

The main objective of teaching accounting is not only to develop the intellectual skills of students but also to provide them with opportunities to work individually, in pairs, small and large groups. Students, in addition to intellectual skills, also need to equip themselves with professional skills like writing, speaking out, presenting, computer and information literacy, decision making and team work. In order to achieve this, new concepts, strategies and methodologies have to be introduced in the teaching of accounting. In the old paradigm, teachers were considered as the sole source of information and students approached them for every possible solution of problems they encountered. However, in the modern paradigm teachers are considered as facilitators and mainly provide their services in the form of guidance to students. This modern approach allows room for students to develop their accounting skills at their own pace and seek information as much as required, thus providing opportunities for their self-development. The teaching strategies used must therefore be in line with the contextual learning theory where the aim of education is the integration of content learnt with the real world experience.

Institutions across the nation are responding to political, economic, social and technological pressure to be more responsive to students' needs and more concerned about how well students are prepared to assume future societal roles. Schools are already feeling the pressure to lecture less, make learning environments more interactive, and to use collaborative learning strategies when appropriate. According to Moses (2017) instructional strategies include all approaches that a teacher may take to actively engage students in learning. These strategies drive a teacher's instruction as they work to meet specific learning objectives. Effective instructional strategies meet all learning styles and development needs of the learners. Instructional strategies determine the approach a teacher may take to achieve learning objectives. They are used by teachers to create learning environments and

to specify the nature of the activity in which the teacher and the learner will be involved during the lesson.

The North Central of Nigeria consists of six states: Benue, Kogi, Kwara, Nasarawa, Niger and Plateau. The states have various tertiary institutions of learning; basically, there are fourteen Colleges of Education in the states namely, Federal College of Education, Kastina-Ala and College of Education Oju (Benue State); Federal College of Education, Okene and Kogi State College of Education, Ankpa (Kogi State); Kwara State College of Education, Ilorin, Kwara State College of Education, Oro, College of Education, (T), Lafiagi and Nigerian Army School of Education, Ilorin (Kwara State); Nassarawa State College of Education, Akwanga (Nassarawa State), Federal College of Education, Kontagora and Niger State College of Education, Minna (Niger State); and Federal College of Education, Pankshin (Plateau State).

All the described variables constituted the background against which this current study was conducted with regard to the effect of guided-discovery and problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.

Statement of the Problem

Financial Accounting is one of the important aspects of business education curriculum at both secondary school and tertiary levels, Colleges of Education inclusive. According to Ogunu (2010), students taught Financial Accounting at senior secondary schools and N.C.E levels find Accounting difficult to understand due to the ineffective teaching methods employed by their teachers.

The researcher of this current study has interacted with teachers and students directly involved, on what they felt were the reasons for the failure of accounting students in their semester examinations. Based on the interaction, the students and teachers gave different

opinions. Some students said they did not like a subject that involves calculation; some said they did not like the way and manner with which they were taught the subject while others blamed the failure on their teacher's presentation of the subject, specifically, teaching methods. The teachers on the other hand said the failure was due to students' lack of interest and seriousness in the subject. Some blamed the government and school authority for refusing to provide adequate instructional materials with which they can effectively teach the subject using different methods.

Igwe and Ikatule (2011) attributed poor academic performance of students in Financial Accounting to deficiency in teaching method(s) used by teachers. This kind of situation therefore, calls for continuous research works on academic performance. Some research reports have shown that poor academic performance in Financial Accounting has been identified as a major problem in Colleges of Education in Nigeria and North Central part particularly (Uwamaiye and Ogunbameru, (2015). Also, analysis of students' performance in the study area over a period of six years showed a pattern of progressive decline.

The preliminary study conducted by the researcher showed that students' performances in financial accounting examinations are below expectation. The poor performance of students in Financial Accounting in Colleges of Education may be attributable to the traditional lecture method popularly used by lecturers in instructional delivery.

In addition, academic performance, which is measured by the examination results, is one of the major goals of any university programme. Business education is established with the aim of imparting knowledge and skills to those who go through the programme. Business education whose vision is to be a programme of excellence is keen on quality assurance and maintenance of standards. However, it has been noted that while very few business

education students perform well in Financial Accounting, majority of them perform poorly. If this poor performance goes unchecked, the programme may lose its reputation which may result in loss of confidence in business education graduates. In confirmation of this statement, researcher's assessment of the recent performance of business education students in financial accounting in the Colleges of Education in the North Central Zone of Nigeria revealed that students' performance in the course is very poor. It was also discovered that a good number of students do not pass Financial Accounting at first sitting.

The summary of the analyses of business education students' performance in Financial Accounting for 2014/2015, 2015/2016 and 20116/2017 academic sessions in fourteen Colleges of Education in North Central zone of Nigeria is given as follows: for 2014/2015 academic session, out of 1535 students 577(37.1%) passed while 958(62.4%) failed. For 2015/2016 academic session, out of 1651 students 649(39.3%) passed while 1002(60.7%) failed and for 2016/2017 academic session, out of 1946 Business Education Accounting students in the fourteen 786 students representing 40.4% passed Financial Accounting while 1160(59.6%) failed.

Ezenwosu and Nworgu (2013) noted that most teachers adopt traditional lecture method which is an oral presentation of ideas, concepts and principles to the students. This suggests the need to identify other teaching methods which may gear towards improvement in academic performance in Colleges of Education in Financial Accounting. No study, to the researcher's best knowledge has yet been conducted on the effects of guided-discovery and problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education in North Central States.

Therefore, this study addressed the afore mentioned problems and to identify effective and efficient teaching methods for teaching and learning Financial Accounting at Colleges of Education level.

Purpose of the Study

The main purpose of the study was to determine the effects of guided-discovery and problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The specific purposes of the study were to:

1. determine the effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.
2. determine the effect of problem-solving teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.
3. determine the effect of Lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.
4. compare the effects of guided-discovery, problem-solving and lecture teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.

Significance of the Study

It is the hope of the researcher that the findings of this study will be of benefit to governments, parents, students, lecturers and school administrators. Governments invest heavily in education, especially at the tertiary level. Therefore when students' performances are enhanced through effective teaching methods, government's heavy investment will be justified.

It is also hoped that society will benefit from the result of this study, as the students are part of the larger society. Therefore, anything that affects the students will be of interest to the society. When students graduate and get employed, they will contribute to the

development of the country's economy and the society at large.

Parents will benefit from the result of this study because the performance of their children is a priority to them. Parents care about and are interested in their children's performance because they believe good academic results will provide a good career and better job opportunities. This study is focused on identifying strategies which can enhance academic performance in Accounting.

School administrators, who are interested in fostering good academic habits for the same reason, are also often influenced by concerns about their reputation and the possibility of financial aid from government institutions and other Non-Governmental Agencies which can uplift the overall academic performance of their schools.

Through publication and seminars, the result of the study will be made available to lecturers in tertiary institutions who will find it useful. It would make their teaching job not only easier but interesting as they will apply the research outcomes to aid effective teaching and learning processes.

Finally, the study is expected to be useful to students in tertiary institutions because, when lecturers apply effective teaching methods, the performance of business education students is likely to improve which, consequently will reduce poor performance in Principles of Accounting in Colleges of Education, North Central, Nigeria.

Research Questions

Based on the specific purposes of this study, the following research questions were raised for the study:

1. What is the effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?
2. What is the effect of problem-solving teaching method on students' academic

performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

3. What is the effect of lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?
4. What are the effects of guided-discovery, problem-solving and lecture teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

Research Hypotheses

Based on the specific purposes of the study and research questions, the following null hypotheses were formulated and tested at 0.05 level of significance.

1. There is no significant effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.
2. There is no significant effect of problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.
3. There is no significant effect of lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.
4. There are no significant effects of guided-discovery, problem-solving and lecturing teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.

Scope of the Study

The Study was carried out in the fourteen Colleges of Education, North Central, Nigeria. The study covered 200 level Business Education students in Colleges of Education in North Central States, Nigeria. This is because the students have gone through Principles

of Accounting I & II as part of their NCE 1 first and second semester courses thereby establishing the fact the entry behavior of the students is taken care of appropriately.

The research study covered second semester course content in BED 221 Financial Accounting II. The topic taught was manufacturing accounts, because it is one of topics in the course content of BED 221 as outlined in the NCCE minimum standard that students' academic performance has been poor after semester examinations. This study was delimited to guided-discovery teaching method, problem solving teaching method as experimental groups and lecture method as control group.

Operational Definition of Terms

Guided-Discovery Teaching Method: is a teaching method that enables learners create their own learning experience, with the guidance of their teachers.

Problem-Solving Teaching Method: is a learner centered teaching approach which makes sure that learners describe the problem related principles and concepts perform research and learn how to learn and in which real life problems are used.

Academic Performance: refers to what students achieve in their studies and how they cope with or accomplish different learning experiences expected of them by their teachers.

Financial Accounting: is the process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to the users for objective assessment and decision making.

North Central, Nigeria: Consists of six states which include Benue, Kogi, Kwara, Nasarawa, Niger and Plateau.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter highlights some of the previous research studies related to the study under the following sub-headings:

Theoretical Framework

Gestalt Theory of Problem Solving

Gagner's Theory of Hierarchal Learning

Bruner Constructivist Learning Theory

Conceptual Framework

Concept of Financial Accounting

Concept of Teaching

Students' Academic Performance in Financial Accounting

Guided-discovery Teaching Method and Students' Academic Performance in Financial Accounting

Problem-solving Teaching Method and Students' Academic Performance in Financial Accounting

Methods of Teaching Financial Accounting

Review of Related Empirical Studies

Appraisal of Related Literature reviewed

Theoretical Framework

Gestalt Theory of Problem Solving

The Gestalt theory of problem solving was propounded by Max Wertheimer**,** Kurt Koffka and Wolfgang Köhler in 1922. According to the Gestalt Theory, which is commonly known as the Law of Simplicity**,** every stimulus is perceived by humans in its *"*most simple form*"*. The main focus of the theory is *"*grouping*"* and the entire theory emphasizes on the

fact that the whole of anything is greater than the sum of its parts. Besides, **"**gestalt**"** in German means the *"*shape of an entity's complete form*"*. Thus, the operational principle of the brain is holistic and has a self-organizing inclination.

The Gestalt theory of problem solving was described by Duncker (1945) and Wertheimer (1959) holds that problem solving occurs with a flash of insight. According to Mayer (1992), insight occurs when a problem solver moves from a state of not knowing how to solve a problem to knowing how to solve a problem. During insight, problem solvers devise a way of representing the problem that enables solution. Gestalt psychologists, (Duncker 1945) and Wertheimer (1959) offered several ways of conceptualizing what happens during insight. According to them, insight involves building a schema in which all the parts fit together and suddenly reorganizing the visual information so that it fits together to solve the problem. Insight involves restating a problem's givens or problem goal in a new way that makes the problem easier to solve and removing mental blocks. It also involves finding a problem analogue (i.e. similar problem that the problem solver already knows how to solve). Wolfolk (2014) stated that problem solving often involves formulating of new answers, going beyond the simple application of previously learned rules in order to achieve a goal. It is what happens when no solution is obvious. Solving a problem takes place when one tries to attain a goal and starts some test of conditions and means of transferring these conditions when there is no immediate available solution (Medlin and Ross 2010). Gestalt theory aimed at teaching students how to represent problems. Solving problems in manufacturing account required Financial Accounting teachers to teach students how to represent problems. In doing so, insight will occur and it will help the students to improve in their problem-solving achievement.

Gestalt theory explains the role of insight in learning situation such as problem-solving insight involves building a schema in which all the parts fit together and suddenly

reorganizing the information so that it fits together to solve the problem. Insights also add to our understanding that circumstances which affect the situation to a given problem will certainly be different from those of another problem. This theory is relevant to this study because students and teachers could use the experience to have insight and understanding of problem situations as this will help them reorganize visual information about such situation and consequently solve the problem.

Gagne's Theory of Hierarchical Learning

Robert Mills Gagne propounded Gagne's Theory of Hierarchical Learning in 1956. He proposed a system of classifying different types of learning in terms of the degree of complexity of the mental processes involved. According to Gagne, the higher orders of learning in this hierarchy build upon the lower levels, requiring progressively greater amounts of previous learning for their success. The lowest four orders tend to focus on the more behavioural aspects of learning, while the highest four focus on the more cognitive aspects.

According to Gagne (1977) all learning cannot be explained by just one theory. As a result, he attempted to evolve a theory or model of learning involving different learning processes at different levels, yet building on work of classical and operant conditioning. This means that new learning occurs through combining of previously acquired and recalled learned entities as well as upon their potentialities for transfer. Consequently, rate of cognitive development does not depend on innate readiness; rather the rate of cognition of simple pre-requisite skills (Ngwoke, 2010). Gagne categorized learning into eight different types in a hierarchical order that each type of learning is a pre-requisite for a successful kind of higher learning, in order of increasing complexity. Gagne's formulation is, therefore, an attempt to bring together in one theoretical framework some basic concepts of learning and cognitive theories. That is the learning of several rules which in turn leads to a higher

order of rules or problem-solving. Problems-solving in manufacturing account, like any other Vocational education courses, requires the application of several principles and rules. Gagne's cognitive theory could be applied by Financial Accounting students in solving problems.

The cognitive theories emphasize structure, organizing and sequencing information to facilitate optimal processing. Cognitive theories also conform to learning from concrete to abstract, simple to complex concepts and topics. Gagne's theory is relevant to studies on cognitive level and cognitive development (Kathryn, 2010). However, these cognitive theories are relevant to this study because students could use the experience acquired from this theory in problem solving.

Bruner Constructivist Learning Theory

This work is based on Bruner Constructivist Learning Theory (1967). The theory states that learning is a process in which the learner is able to build on present and previous information through practice and activity. The student should be able to take information, create ideas and make choices by utilizing a thought process. The teacher should therefore encourage students to develop the skills to find out principles on their own. According to him, constructivist learning theory takes place in problem-solving situations where the learner draws on his or her own past experience and existing knowledge to discover facts and relationships and new truths to be learned.

As a result, students may be more likely to remember what they see and practice on their own. Students therefore interact with the world by exploring and manipulating objects, wrestling with questions and controversies or performing experiments. Proponents of this theory believe that it has many advantages which include: Encouraging active engagement, promotes motivation, promotes autonomy, responsibility, and independence, promotes activity learning, help in development of creativity and problem solving skill, encourages the

use of all the five senses in learning and promotes a tailored learning experience. This research work is related to Jerome Bruner's constructivist learning theory because it has to do with activity learning and this work is also on activity learning.

Conceptual Framework

The major concepts used in this study were guided-discovery teaching method, problem solving teaching method, academic performance and Financial Accounting.

Concept of Financial Accounting

According to American Accounting Association (2010) Accounting has been defined as "the process of identifying, measuring and communicating information to permit judgment and decision by the users". Financial Accounting is a process of summarizing in monetary terms the financial transaction of a company. Jat and Jugu (2018) defined Financial Accounting as a service activity which provides social communication through which changes and improvements in business activities are communicated to various users in order to allow them make informed decision. According to Oyetade (2018) Financial Accounting as a process concerned with recording data, classifying and summarizing data, and communicating what has been learnt from the data.

Longe (2011) defined Accounting as the recording, classifying, creating, summarizing and communicating of financial information to interested parties and interpreting to help in making specific business decisions. Accounting records are kept to evaluate the performance and profitability of the business organization, prevention of fraud, monitoring of the enterprise progress and for making economic comparison. The Accounting curriculum in the secondary schools is carefully designed to suit the needs of the students and other interested learners. If it is properly inculcated into the students, many of them would be properly grounded and prepared to become professionally qualified accountants.

The term Accounting has been defined by different authors in different ways:

Accounting especially Financial Accounting is concerned with verifiable facts about the past. It may be defined as the process which deals with the measurement and involves the collection, classification and presentation of information in money terms on economic activities of organizations (Ugwu, 2013). Accounting is defined by the American Institute of Certified Public Accountants (AICPA) as "the art of recording, classifying and summarizing in a significant manner and in terms of money transactions and events which are, in part at least of financial character, and interpreting the results thereof".

Financial Accounting is an academic course that equips students with relevant skills and knowledge needed for occupation in accounting field. Akinbuli (2016) stressed that "Financial Accounting is a branch of accounting that enables business managers to report their stewardship, keep records of all financial transactions, provides records for tax assessment, planning and decision making". Financial Accounting is the process of identifying, measuring, and communicating economic and financial information to permit informed judgments and decision by the users of the information (Okwoli, 2006). Asaolu in Olorode and Jimoh (2016) also explained that Financial Accounting involves a process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to users for objective assessment and decision making. Similarly, Okewale, Osinubi, Abata and Desu in Olorode and Jimoh (2016) corroborated that Financial Accounting is a field of accounting that involve collecting, recording, classifying, summarizing and communicating financial data in respect of business event which can be expressed in monetary terms. The major objective of offering Financial Accounting in Business Education is to impart the necessary skills and knowledge for performing financial duties in any business organization and provide students with technical and professional skills needed to handle financial accounting subject in both secondary and tertiary institutions including colleges of education. Meanwhile, in colleges of education Financial Accounting is

part of business education subjects offered to students and they must attain some level of success in it before they are awarded N.C.E certificate.

The American Accounting Association defined accounting as follows, “the process of identifying, measuring and communicating economic information to permit informed judgments and decisions by users of the information”. This definition is a good place to start. The keywords in the above definition are:

Information: This suggests that accounting is about providing information to others. Accounting information is economic information. It relates to the financial or economic activities of the business or organization.

Identification: This suggests that accounting information needs to be identified and measured. This is done by way of “set of accounts”, based on a system of accounting known as double entry book-keeping. The accounting system identifies and records “accounting transactions”.

Measurement: The “measurement” of accounting information is not a straight forward process. It involves making judgments about the value of assets owned by a business or liabilities owed by a business. It is also about accurately measuring how much profit or loss has been made by a business in a particular period.

Communication: The definition identifies the need for accounting information to be communicated. The way in which this communication is achieved may vary. There are several forms of accounting communication (example, annual report, management accounting report), each of them serve a slightly different purpose. The communication need is about understanding that needs the accounting information and what they need to know.

Accounting information is communicated using financial statements. The purpose of financial statement is to report on the financial position of an entity and to show how the entity has performed (financially) over a period of time (an accounting period). In whatever

way the term accounting is defined, its universally accepted objective is to record all transactions in monetary units and to report them to the users in useful manner in the form of financial statements. These financial statements provide accounting information which is used by various interested parties for decision making.

Financial accounting is one branch of accounting and historically has involved processes by which financial information about a business is recorded, classified, summarized, interpreted and communicated for public companies. The information is generally publicly accessible. This enables users to make decisions. It incorporates measurement and reporting of profit and loss. Students are often overwhelmed by the amount of information presented in the introductory financial accounting course. By focusing on fundamental concept in a logical sequence, students are able to fully comprehend the material rather than memorize seemingly unrelated terms and topics. The goal of financial accounting concept is to enable students to understand how any given business event affects the financial statements. The "financial statement models" is highly praised because it allows students to visualize the simultaneous impact of business events on all the key financial statements (the income statement, the balance sheet and the statement of cash flows). The following are some of the topics that make up financial accounting: principles and practice of double entry account, bank reconciliation statement, manufacturing account and final accounts.

Concept of Teaching

Teaching is the process through which knowledge, skills and values are consciously or unconsciously acquired as a result of interaction between the teacher and his pupils. Weboon (2009) opined that teaching is the activity of educating or instructing an activity that impacts knowledge or skill which results into learning, and in turn brings about change in behavior and skill acquisition of the learner. Success in teaching is measured by the degree to

which the teacher is able to achieve his or her desired learning objective in the student, and to achieve this, the teacher must know the type of learning needed by his students, and how to bring about such learning.

Mishara (2017) observed that teaching is much more difficult than most faculties are willing to acknowledge. Teaching and learning should be inseparable, in that learning is the goal of teaching. Mishara (2017) further explained that teaching is part of a whole, which comprises of the teacher, the learner, the disciplinary content, the teaching and learning process, and the evaluation of both the teacher and the learner. Cain (2008) emphasized that, the success in teaching is measured by the degree to which the teacher is able to achieve the desired learning in his students, and to achieve this, the teacher must know the type of learning needed by his pupils and how to bring about such learning. In other words, the basic thing in teaching concerns the selection of content and material. Yet Walk (2010) described teaching as an art which can be made concrete through practice and not by formal study.

Students' Academic Performance in Financial Accounting

Despite the importance of accounting in daily activities of individuals, businesses and government, the persistent poor performance of students in the subject has not been adequately addressed (Eze, Ezenwafor & Obidile, 2016). However, literature indicates that there are many factors which could hinder effective learning of accounting and bring about poor academic performance. Omotayo (2014) and Olarinoye (2015) outlined such factors to include lack of qualified teachers, inadequate supply of facilities and equipment, lack of instructional materials and use of wrong methods of teaching. Among all these factors, teachers' method of instruction have been viewed to have direct impact on students' academic performance (Pilato & Ulrich, 2014).

Academic performance of students could be defined as the learning outcomes of the students. This includes the knowledge, skills and ideas, acquired and obtained through their

course of study within and outside the classroom situation. It is the outcome of determination, hard work, of student in academic pursuit. Academic performance refers to how well a student is accomplishing his or her tasks and studies (Scortts, 2012). Grades are certainly the most well-known indicator of academic performance. Grades are the student's "score" for their classes and overall tenure. Pandney (2011) defined academic performance as a person's performance in a given academic area (e.g. reading or language arts, mathematics, science and other areas of human learning. Academic performance relates to academic subjects a child studies in school and the skills the child is expected to master in each (Kathryn, 2010).

Academic performance refers to excellence in all academic discipline, in a class as well as extracurricular activities. It includes excellence in sporting behaviour; it includes excellence in sporting behaviour, confidence, communication skills, and others. Kathryn (2010) posits that academic performance encompasses students' ability and performance; it is multidimensional; it is intricately related to human growth and cognitive, emotional and socio-physical development; it reflects the whole child; it is not related to a single instance, but occurs across time and levels, through a student's life in public school and into post secondary years and working life. Academic performance refers to how well a student is accomplishing his tasks and studies.

Academic performance in school is evaluated in a number of ways. For regular grading students, students demonstrate their knowledge by taking written and oral tests, performing presentations, submission of homework and participating in class activities and discussion. Teachers evaluate in the form of assignment, test and examination to describe how well a student has done. Poor academic achievement is a performance that is adjudged by the examiner and some significant others as falling below an expected standard (Kathryn, 2010).

Academic performance is how well the student is doing in school. Aka (2005) defined

academic performance as the index of general mental abilities which are responses to test of different kinds. So, in societies like Nigeria where standardized test of different kinds exist, the academic performance of the students is represented by the individual‘s response to standardized scholastic aptitude tests; and the level of response given to such scholastic aptitude tests can help in determining success. This scholastic aptitude test should embrace the students' general school performance in various school subjects. For instance, in Nigeria junior secondary schools at JSSCE (examination) level, the students are tested on the subjects offered in JSS school certificate examination.

Walker and Lofty (2003) in support of the above view explains that academic performance is the general school performance in the various school disciplines as exhibited by the individual learner. Invariably, academic performance can be seen as the general ability in intellectual functioning. A student can be above average, average or below average in his or her cognitive functioning. Academic performance according to the Cambridge University Reporter (2003) is frequently defined in terms of examination performance. In line with this, Raymond (2000) stated that when students are judged at the cognitive level, some can be seen as being of high or low intellectual ability or as intelligent or back ward or as above average, average or below average. Aka (2005) buttressed this, by pointing out that the students referred to as high intelligent or above average in intellectual ability are usually those students who perform in the 'A' and 'B' grades while those in D and E grades are seen as below average students. Staffolani and Bratti, (2002) observed that measures of prior educational performance are the most important determinants of student performance. This implies that the higher the previous performance, the better the students will perform academically. In this study academic performance is characterized by performance in tests. David (2017) defined Academic Performance in three categories to include:

Cognitive Skills and Attitudes

Cognitive skills and attitudes include both basic cognitive abilities, such as executive functioning, attention, memory, verbal comprehension, and information processing, as well as attitudes and beliefs that influence academic performance, such as motivation, self-concept, satisfaction, and school connectedness. Studies used a range of measures to define and describe these constructs.

Academic Behaviours

Academic behaviours include a range of behaviours that may have an impact on students' academic performance. Common indicators include on-task behaviour, organization, planning, attendance, scheduling, and impulse control. Studies used a range of measures to define and describe these constructs.

Academic achievement includes standardized test scores in subject areas such as reading, math, and language arts; GPAs; classroom test scores; and other formal assessments. Therefore, Performance in school is evaluated in a number of ways. For regular grading, students demonstrate their knowledge by taking written and oral tests, performing presentations, turning in homework and participating in class activities and discussions. Teachers evaluate their students in the form of letter or number grades and side notes, to describe how well a student has done. At the state level, students are evaluated by their performance on standardized tests geared toward specific ages and based on a set of achievements students in each age group are expected to meet. Some factors that influences students' academic performance includes:

Teaching Methods

The primary educational goal for teaching every subject is to teach students both theoretical and practical aspect of the subject (Ola, 2014). When teaching, there are assortments of styles and methods a teacher may choose from. These methods are ways of

organizing and presenting learning experiences to children (Ubah, 2014). The style ranges from a direct teacher-centered approach, to an indirect more student-centered approach. As opined by Tunde (2015) the student-centered teaching method is more time-consuming and requires more preparation by the teacher, however the benefit to be gained from this method is definitely worth the extra time spent in developing the lessons. Teaching method is the first step to improving the level of students' performance.

The Teachers Qualification

In order for students' performance to improve, the teachers' qualification has to be improved; he should therefore undergo series of training in order to become comfortable and successful in teaching and using suitable methods. This cannot be done without substantial practice on the part of the teacher. What a teacher does or does not do, makes a whole lot of difference in whether or not students will learn effectively. Adesola (2016) found out that the level of available resource is indeed a plus to the teachers and goes to show the level of genuity and commitment of the teachers toward effective delivery of lesson. He also documents that teacher qualification accounted for approximately 40 to 60 percent of the variance in average of students' achievement in assessment. Akinsolu (2010) asserted that availability of qualified teachers influences the performance of students in schools. The teacher therefore holds the key to influencing students' performance.

School Environment

This is an important factor that influences students' performance. Bandele (2013) noted that the importance of physical facilities cannot be relegated. Facilities like modern laboratories, libraries and classrooms are to be put in place in all our schools. Schools are established for the purpose of teaching and learning. Many educationists, ecologists and sociologists opined that a student performance depends more on school quality, than home background. Karemera (2013) found that students' performance is significantly correlated

with satisfaction with academic environment and service received. It is also more important that the teachers and learners are properly accommodated to facilitate the teaching and learning that go on there (Alimi, 2014). Akinfolarin (2016) identified facilities as a major factor contributing to academic performance in the schools system. These include classroom furniture, recreational equipment among others. Favorable school condition could therefore enable most students to learn well and to get satisfaction from their learning.

Instructional materials

Instructional materials irrespective of the subject they are used for as aids are always available in different forms. According to Olaitan and Agusiobo (2011) instructional materials are of four main types which include audio-visual aids, visual aids, audio aids and simulated devices. These materials are needed in schools for effective operations of the system, and for the enhancement of teaching and learning in order to improve students' performance.

Edwin (2011) opined that the right methods of teaching and instructional materials should be used in impacting knowledge also teachers have to be motivated and evaluated in order for them to motivate and evaluate students academically so as to solve most of the problem faced by schools thereby increasing students level of academic performance.

Problem-Solving Teaching Method and Students' Academic Performance in Financial Accounting

Human beings face multiple dimensional problems in their lives and they try to solve these problems in a particular way in the light of their previously gained knowledge and experiences. In this regard, it is essential for the students to be prepared for future or near future challenges by facing real life, or real life problems in their learning environment, and finding appropriate solutions of these problems. Ajoma (2017) opined that problem solving is an advanced method of teaching and learning, and it involves making observations. The root of problem-solving learning is found in Dewey‘s thoughts, that learning by experimentation

or doing is more lasting (Ali, Hukamdad, Akhter & Khan, 2010). Actually, problem solving is how to learn independently, it is the most convenient approach to achieve the aims of teaching learning process. Problem Solving can be referred to as a process of finding answers or approaching solutions creatively. This process requires the learner to be totally involved in the learning process. Downs (2010) defined problem-solving as the process of applying previously acquired knowledge to obtain a satisfactory solution to new and unfamiliar problems. Problem-Based Method can be viewed as a teaching philosophy that advocates student-centered and teacher-facilitated learning. According to constructivism, learners through interaction with the environment use the experiences they have gained to construct new knowledge (Yang, 2012).

Advantages of Problem-Solving Method

It bases students' skills development on their current knowledge; It is an interesting and enjoyable way to learn skills; It is a way to learn new concept with greater understanding; It produces positive attitudes towards learning; It teaches general problem solving skills; It encourages cooperative skills and It is similar in approach to the way that other subjects are taught in school.

Disadvantages of Problem-Solving Method

It produces teacher discomfort; It produces student insecurity; It puts constraints on the curriculum and takes too long to teach; It is not possible with students of low ability; and It takes a lot of preparation.

Problem-based teaching is one constructivist instructional method that has shown much promise in its application to disciplines and domains where learners have to tackle complex problems in real life situations. This approach to instruction structures courses and entire curricula on problems rather than on subject content (Lohman, 2011). Problem-based teaching is a method that situates learning in complex and meaningful problems that are

framed in authentic contexts (Hmelo, 2008). Students work in small groups to acquire the conceptual knowledge and procedural skills needed to develop one or more plausible solutions to each of the problems presented to them.

Although problem-based teaching was first applied to K-12 classrooms in the 1920's and1930's, the approach has gained particular attention in recent years due to the success in its application to medical programs at the university level (Lohman, (2011).The specific instructional techniques and procedures used in the design and implementation of a problem- based teaching course or curriculum varies from one context to the next. However, the typical learning process followed in a problem-based teaching environment according to Lohman (2011) is as follows:

1. Students begin the problem without any prior experience in dealing with like problems. Each group of students (usually consisting of between five and twelve students) will meet with a facilitator to discuss the problem.

2. The facilitator presents a limited amount of information about the problem, and the group is charged with the task of identifying the different aspects of the problem by asking the facilitator questions to elicit information relevant to the problem.

3. Students work with the facilitator to generate and refine hypotheses related to the problem's potential solution. The facilitator's role is to model hypothesis-driven reasoning skills.

4. Students determine learning issues that the group decides are relevant and that they need to learn more about to find an acceptable solution to the problem.

5. The groups are then asked to assign tasks to each member of the group for researching each of the different learning issues they have identified.

6. Group members engage in self-directed learning by gathering information related to the assigned learning issues from a variety of different sources.

7. After each of the group members has conducted the necessary research related to the learning issue they were assigned, the group members report their findings to each other. They reconvene and re-examine the problem, applying newly acquired knowledge and skills to generating a formal solution to the problem.

8. Once the formal solution has been presented to the class and the facilitator, students reflect on what they have learned from the problem and on the process used to resolve the problem presented.

In problem-based teaching, students use triggers from the problem case or scenario to define their own learning objectives. Subsequently they do independent self-directed study before returning to the group to discuss and refine their acquired knowledge. Thus, problem-based teaching is not about problem solving per se, but rather it uses appropriate problems to increase knowledge and understanding. The process is clearly defined, and the several variations that exist all follow a similar series of steps (Lohman, 2011).

Group learning facilitates not only the acquisition of knowledge but also several other desirable attributes, such as communication skills, teamwork, problem solving, independent responsibility for learning, sharing information, and respect for others. PBL can therefore be thought of as a small group teaching method that combines the acquisition of knowledge with the development of generic skills and attitudes (Maxwell, Bellisimo & Mergendoller, 2005). Appropriate presentation of problem-based teaching enables students to understand the relevance of underlying scientific knowledge and principles in corporate accounting. However, when PBL is introduced into a curriculum, several other issues for curriculum design and implementation need to be tackled. PBL is generally introduced in the context of a defined core curriculum. It has implications for staffing and learning resources and demands a different approach to timetabling, workload, and assessment. Paper based PBL scenarios form the basis of the core curriculum and ensure that all students are exposed

to the same problems (Maxwell, Bellisimo & Mergendoller, 2005).

(a) Origin and goals of Problem-based teaching

According to Chegwidden (2006), Problem-based teaching was first established by Howard Barrows in the 1960‘s as part of the education of physicians in medical school. Problem-based teaching is a method that Hmelo-Silver (2004) defined as a set of problems provided to small groups of students to try to solve. Students discuss each problem; retrieve their prior knowledge related to the problem and search for new information that helps in solving the problem. Problem-based teaching method aimed to help student in developing rich cognitive models when solving the problem (Norman & Schmidt, 2005). Similarly, Savin-Baden (2006) argued that teachers aimed when using Problem-based teaching to develop their students’ self-independent learning. Problem-based teaching is an approach targeting five different goals not addressed by the conventional method (Salvatori, 2007):

1. Construction of useful knowledge: problems produce intrinsic interest which sequentially initiates the cognitive processes of retrieving prior knowledge, determining a problem space, seeking out new information, and reconstructing information into knowledge (Norman & Schmidt, 2005). Constructing extensive and flexible knowledge goes beyond having students learn the facts of a domain. To encourage students to develop flexible knowledge and effective problem solving skills, learning must be embedded in contexts that require the use of these skills (Hmelo-Silver, 2004). Discussing problems in a Problem-based teaching group (before beginning to research learning issues) activates relevant prior knowledge and facilitates the processing of new information. Students have better ability to construct new knowledge when they can relate it to what they already know (Hmelo-Silver, 2004).

2. Development of reasoning methods: through constant contact with real life

problems, students will develop abilities to perceive a problem and appreciate its features, formulate and analyze critically possible hypotheses and finally make decisions about appropriate actions to solve the problem (Norman & Schmidt, 2005).

3. Development of effective self-directed learning methods: self-directed learning makes the student aware of the importance of personal learning needs. Additionally, it allows him to find and to utilize accurately all kinds of information resources (Norman & Schmidt, 2005). According to Torp and Sage (2004) metacognitive methods are important for developing self-directed, lifelong learning skills. These are the skills that enable autonomous learning. First, learners must have a metacognitive awareness of what they do and do not understand. Second, they must be able to set learning goals, identifying what they need to learn more about for the task they are engaged in. Third, they must be able to plan their learning and select appropriate learning methods. In other words, they must decide on a course of action to reach these goals. Finally, as they implement their plan, learners must be able to monitor and evaluate whether or not their goals have been attained.

4. Increased motivation for learning: since students will perceive the problems studied as relevant and given that sessions are structured as open-ended discussions, curiosity is fostered (Norman & Schmidt, 2005).

5. Becoming effective collaborators: The Problem-based teaching process pushes students to work together and to help each other to get an understanding of what they are learning and its relevance to the problem. It is this collaboration that permits the students to build up the abilities necessary to be responsible for their own learning. Collaboration is an indispensable ability that students should have, since they will be regularly working as members of teams *(*Hmelo-Silver & Barrows*,* 2006*)*. Research literature has shown that the success of problem-based teaching depends on group work (Gallagher & Stepien, 2009).

From the objectives highlighted above, it is clear that the principal goal of the

Problem-based teaching approach is the development of higher order thinking. Problem-based teaching main objective is to stimulate students to learn at the higher levels, where students analyze, synthesize and evaluate instead of simply know, comprehend and apply (Salvatori, 2007).

(b) Characteristics of Problem-Based Teaching

According to Torp and Sage (2004) problem-based teaching is a method that is student- centered, in this methodology students research, explain, and cooperate in order to find meaningful solutions to real life problems. The Problem-Based Teaching Cycle is made of several steps:- A real life problem is presented to students.

1. Students discuss the problem and formulate hypothesis.
2. Students first retrieve prior knowledge and experience relative to the problem next they identify knowledge deficiencies and start making their research.
3. Following, students apply their knowledge to check the validity of their hypotheses in light of what they have learned.
4. At the end of each problem, students make their own reflection on the knowledge acquired (Akinoglu & Tandogan, 2004; Neild, 2006; Wang, Thompson, & Shuler, 2008). Hmelo-Silver (2004) stated that the most important factor of problem-based teaching is the problem itself.

Several features are considered essential to develop a good problem-based teaching problem:

1. It needs to be complex, open-ended, and ill-structured. (Uyeda, Madden, Brihjam, Luft & Washburne, 2004; Torp & Sage, 2004). An ill structured problem is problem that is incompletely defined and not easily resolved with any degree of certainty. Furthermore, it has multiple solutions with none clearly superior (Torp & Sage, 2004).
2. It must be realistic and resonate with the students' experiences and it should

support intrinsic motivation (Torp & Sage, 2004).

3. It must lead students to generate hypotheses and defend them to others in their group. Students publicly articulate their current state of understanding, enhancing knowledge construction and setting the stage for future learning (Cerezo, 2014).

4. It must afford feedback that allows students to evaluate the effectiveness of their knowledge, reasoning, and learning methods. And it should challenge students to develop higher order thinking skills (Hmelo-Silver, 2004).

(c) Role of the Teacher and Student in Problem-Based Teaching

Problem-based teaching requires changes in the teacher‘s lesson planning, instruction delivery, classroom setting, and information assessment (Torp & Sage, 2004). In problem-based teaching, teaching is facilitating and mentoring, it is based on the fact that students are self-independent learners who can build their own knowledge with the guidance of their tutor. The teacher role in problem-based teaching is critical; a good facilitator will guide his/her students through the different phases of the problem-based teaching process. The teacher insures the involvement of all the students in the learning process where they exchange information with their peers by externalizing their own thoughts and commenting on each other’s ideas (Torp & Sage, 2004). In problem-based teaching, the teacher encourages student to use logical thinking by analyzing the given problem, thus higher order thinking skills are developed. He/she also encourages student to retrieve prior knowledge and discuss it with their group members by asking probing questions. Problem-based teaching tutor models problem solving skills needed to assess one‘s reasoning (Akinoglu & Tandogan, 2006).

Unlike conventional methods where the teacher is the leading figure, Chin and Chia (2004) indicated that in problem-based teaching, student assumes a different role than that in the traditional teacher-centered process in which information is presented to them by the

teacher.

In problem-based teaching, student must play a more active role, that of a highly motivated learner, arriving with substantial intellectual capacity and background information. Problem-based teaching presents the students with the chance of assessing their own understanding, and discovering their own learning needs. Through problem-based teaching students become more skilled at gathering, organizing, and storing information in a useable form for future use, as well as, confronting and resolving complex, realistic problems. Active participation within the small group requires good interpersonal skills. These include: listening, giving and receiving criticism, compromising, negotiating, educating peers, and motivating others. The teacher is a mentor who guides his student during their group work and helps them to find the knowledge needed to find the problem solution (Doig & Werner, 2006).

The use of real life problem in the problem-based teaching method induces students' interest and thinking which leads to a greater student involvement in learning (Torp & Sage, 2004). Students gain the ability to analyze the problem and synthesize an appropriate explanation to it, thus become independent learners (Torp & Sage, 2004). Problem-based teaching is a very useful pedagogical approach, with many valuable effects for the students. First of all, it promotes problem solving skills like cooperating, communicating, and researching skills. In problem-based teaching students have greater ability than conventional students to retain the knowledge they gain since they are actively engaged in the learning process (Doig & Werner, 2006). These Problem-based teaching characteristics contribute to an increase in student motivation towards learning (Torp & Sage, 2002; Doig & Werner, 2006).

(c) Barriers to Problem-Based Teaching Implementation

Similar to any educational approach problem-based teaching has its own limitations.

To a greater or lesser extent, overcoming these barriers is possible if appropriate methods are adopted when problem-based teaching is introduced into the curriculum. Some disadvantages of problem-based teaching are:

1. It could be difficult for teachers to change their teaching styles (Hmelo-Silver, 2004): Tutors enjoy passing on their own knowledge and understanding so they may find problem-based teaching tutoring difficult and frustrating. The lack of training programs, curriculum materials, and rigid scheduling in the high school environment will increase demands on any teacher trying to implement Problem Based Learning in the classroom (Akinoglu & Tandogan, 2006).

2. Problem-based teaching is more expensive than traditional methods: the problem-based teaching curricula necessitate large number of well-equipped rooms for small group meetings. In addition, it requires other important resources to support small group investigations, including instructional materials (both textbooks and multimedia), space library, equipment, and support personnels. For instance, having several copies of resource material available in the library for large numbers of small groups implies substantial costs, particularly for schools in developing.

3. There is a lack of prepared materials for problem-based teaching classroom instruction (Torp & Sage, 2004). Present curriculum guides and textbooks do not contain the variety of sample problems needed to support this methodology on a broad scale. Few teachers have the time or the motivation to prepare all new materials for classes (De Grave, Schmidt & Boshuizen, 2007).

4. Students who are used to the traditional lecturing are likely to be uncomfortable when using the problem-based teaching approach for the first time (Chin & Chia, 2004). It will be up to the teacher to convince students that they are researchers looking for information and solutions to problems that may not have one right answer.

Guided-Discovery Teaching Method and Students' Academic Performance in Financial Accounting

Guided discovery is a teaching method, that enable learners create their own learning experience, with the guidance of their teacher. Garuma & Tesfaye (2012) stated that discovery learning is an intentional learning through problem solving under teacher supervision. It is a method through which teacher provides illustrative materials for students to study on their own (Akinbobola & Afolabi, 2010).

During guided discovery, the teacher invites students to initiate discussion and to react to other students' (Garuma & Tesfaye, 2012). Olorode (2016) affirms that guided discovery strategy is an instructional method that emphasizes students' active involvement in the learning process through peer work and enable students to think together with a view to discovering knowledge under the guidance of the teacher especially in calculation subjects like Financial Accounting.

Guided discovery learning strategy is a learning situation in which the principal content of learning is not directly exposed by the teacher but left to be discovered by the learners, making the teacher a guardian and students active participants in the learning process. Ogunbiyi (2012) noted that vocational education curriculum demands the adoption of more progressive strategies of discovery, inquiry, discussion, problem solving, dramatization or role playing, computer-assisted instruction and other relaxed classroom learning and teaching activities. The relevance of guided discovery method to Financial Accounting emanated from the suggestion that learners construct knowledge out of their experiences which is associated with pedagogical approaches that promote learning by doing or active learning (Afolabi & Akinbobola, 2009). Constructivist teaching is based on the fact that skills and knowledge acquisition are not by passively receiving information and rote learning but involves active participation of the learners through knowledge construction, hands-on and minds-on activities (Akinbobola & Afolabi, 2010). The teachers' role in guided

discovery is to serve as facilitator of learning in which students are encouraged to be responsible, autonomous and construct their own understanding of each concept. Hence, the activities are learner-centered, democratic and interactive. Garuma & Tesfaye (2012) corroborated that discovery learning is an intentional learning through problem solving under teacher supervision. It is a method through which the teacher provides illustrative materials for students to study on their own (Akinbobola & Afolabi, 2010). The method is an inductive method of guiding learners to discuss and organize ideas and process it by themselves (Acero, Javier & Castro, 2010). During guided discovery, the teacher invites students to initiate discussion and to react to other students' (Garuma & Tesfaye, 2012). Learners' background knowledge and understanding of what is expected of them are most important consideration for effective use of this strategy. It can bring improved understanding of Financial Accounting because students have background knowledge in Financial Accounting from secondary school. Self-discovery of more knowledge and better understanding of its content can be achieved through guided discovery.

A lot of empirical studies have been conducted to testify the effectiveness of guided discovery in enhancing students' academic performance in school. But many of these studies were conducted on science subjects like chemistry, mathematics, physics (Udo, 2010, Ozomadu, 2016, Garuma and Tesfaye, 2012). To the knowledge of researcher, no studies have been conducted in North Central, Nigeria to determine the effectiveness of guided discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education. According to Mayer, (2014) there are three levels of guidance in teaching:

Pure Discovery: The student receives representative problems to solve with minimal teacher guidance. Pure discovery methods often require excessive amounts of learning time, result in low levels of initial learning, and result in inferior performance on transfer and long

term retention. When the principle to be learned is obvious or when a strict criterion of initial learning is enforced, pure discovery students are likely to behave like guided discovery students. Apparently, pure discovery encourages learners to get cognitively involved but fails to ensure that they will come into contact with the rule or principle to be learned.

Guided-Discovery: The students receive problems to solve, but the teacher provides hints and directions about how to solve the problems to keep the student on track. Guided discovery may require more or less time than the third, expository instruction, depending on the task, but tends to result in better long term retention and transfer. Guided discovery both encourages learners to search actively for how to apply rules and makes sure that the learner comes into contact with the rule to be learned.

Expository: The final answer or rule is presented to the students. When well devised and managed, the discovery method offers active learning and achievable challenge which engages interest. Expository Instruction may sometimes result in less learning time than other methods and generally results in equivalent levels of initial learning as compared to guided discovery. If the goal of instruction is long-term retention and transfer, expository methods seem inferior to guided discovery. Apparently expository instruction does not encourage the learner to actively think about the rule but does ensure that the rule is learned. Consequently, discovery activities motivate all but the most apathetic students.

However in Guided discovery teaching, the instructor guides the student's thought process by posing a series of questions whose responses would lead to the understanding of a concept before it is explicitly stated. "Children act as detectives as they solve concept attainment activities in stimulating learning environments. In doing so, they place a newly introduced object in a category that they have previously discovered or identified (Gallenstien 2014). This teaching method is believed to increase retention of material because the student organizes the new information and integrates it with information that has

already been stored. Emphasizing the need for discovery method of teaching and learning is a knowing process, not a product. Therefore, to instruct someone in a discipline is not a matter of getting him to commit results to mind, rather, it is to teach him to participate in the process that makes possible the establishment of knowledge.

According to Daine (2016) Characteristics of Guided-discovery Teaching includes the following:

1. Teacher makes all planning and evaluation decisions and some execution decisions, but decisions must be modified as a result of student response,
2. Student evaluation decisions become intertwined with execution decisions and teacher provides reinforcement for all responses,
3. The question and answer process works towards a single goal,
4. Questions must be designed so that question 2 is based on the answer to question 1, question 3 is based on information from question 2 and so on,
5. Each succeeding question should narrow in on the target until the solution to the final question results in the desired discovery - a funnel effect,
6. The teacher always knows the answer, but students do not.

Concept of Teaching Methods

Teaching methods involves the study and practice of various methods of teaching which includes the mastering and application of different principles of learning. White (2013) opined that teaching methods are the tools or means through which practicing teachers engage their students into meaningful activities, as a result of which ideas, values and facts are learned. Joseph (2014) added that for effective teaching to take place, the skillful teacher needs to use different methods and techniques at his command, even though there is a great diversity in teaching methods, there is no one of them that can be regarded as the best for every teaching situation. A carefully designed teaching method, can work wonders in

making learning effective. Therefore the success in the use of the method depends on an intelligent analysis of the educational purpose, the pupils in the class, and the curriculum content at the moment as well as the type of subject being taught. Some of these teaching methods according to Dennis (2016) includes: lecture method, Discussion Method, Inquiry Method, Project Method, and Case Study Method, Guided-discovery Method and Demonstration Methods. A brief discussion of these methods is as presented in the subsequent paragraphs below:

Lecture Method

The lecture method is sometimes referred to as "exposition", reception learning or chalk and talk approach. Ajoma (2017) described lecture method as a process whereby teachers give a talk on a subject to students, while the students listen and think about it. In the lecture method, the teacher gives an address to the class and his talks dominate the activity of the class. The lecture method is seen as one which leads to an easy coverage of the school syllabus. Large amount of material could be covered to a large class size in a single period. According to her, this method involves a verbal presentation of ideas, concepts, generalization and facts. The practice here is that of spoon-feeding the learner with information or facts, while the students swallows. Therefore, the teacher takes most of the time and thus making teaching teacher-centered, while the student is merely or mostly a passive learner who must accept the information imparted to him.

The lecture method is mostly used for students in the tertiary institutions, where the material to be learned is given in a completed form to the learner (Akinsolu, 2010). The teacher dishes out the information to the learner, and in most cases, the learners are passive like empty vessels to be filled. The lecture method therefore reverses the concept of education which maintains that the best learning is that which results from purposeful activity. Furthermore, anything which puts the pupil in a passive situation and stresses

activity for the teacher is bound to benefit the teacher more than the pupil (Edwin, 2011). Under the setting of the lecture method, it is the teacher who learns to use reference so as to outline, to organize ideas, to formulate conclusions and to speak.

Lecture method is the oldest teaching method. As used in education, the lecture method refers to the teaching procedure involved in clarification or explanation to the students on some major ideas (Obunadike, 2011). This method lays emphasis on the presentation of contents by the teacher. The teacher is more active and students are passive but he also uses questions and answers to keep them attentive in the class. It is used to motivate, clarify, expand and review the information. Domitrovich Cortis and Greenberg (2007) observed that the lecture method is associated with the telling or didactic teaching method. This means that the teacher centred teaching happens in a highly teacher dominated environment (Egbo, 2008). Teachers using the lecture method have very limited concern about students' ideas and reasoning when they prepare their lessons (Olulube, 2006). Thus we can say that when teacher takes the help of a lengthy-short explanation in order to clarify his ideas or some fact that explanation is termed as lecture method.

Usually teachers use lecture method because they are accustomed to them (most probably they were lectured at tertiary institutions). Lecture method allows easy control over students. Teacher‘s actions are more on helping students to develop understanding of subject matter. In other words, the teacher gives more attention to student‘s cognitive knowledge, and teachers also use assessment as a tool to assign grades. Leichnitz (2006) noted that even where the teacher-student interactions focus on nurturing the development of understanding of concepts and students reasoning about them, the setting tends to be strongly teacher-directed in its nature and in the physical setting and use of resources. Many secondary school teachers tend to demonstrate this kind of approach to teaching. Researchers, especially in Africa and Asia, see lecture method as a valuable tool for effectively teaching and high

student academic performance (Obunadike, 2011). The application of contemporary knowledge and ideas, effective use of appropriate questioning, time management and the arrangement of the classroom, proper curricular development, and the statement of the instructional objective and mastering of subject matter are seen as effective instructional methods. Pedagogy experts like Instructional competence is needed to do well in the use of the lecture method. They see having quality teachers in schools, districts, states, professional groups, and institution enable, as high-quality teaching and learning is critical to the welfare of the nation‘s education system and the young people it serves. It leaves us asking if teachers can be trained to provide an enriched environment and teach a curriculum in such a way that every child is challenged to perform far above grade level (Miranda & Landmann, 2011).

Discussion Teaching Method

Discussion is when two or more people interact verbally with each other. Discussion Teaching Method could be adopted deliberately in learning situations, but sometimes it occurs spontaneously as a teacher uses this method of teacher or another (Martin, 2015). According to him, discussion could be considered as a technique within a method, sometimes it may occur at brief intervals during an informal lecture, and so maximum participation is achieved. In this way, discussion could be considered as student-centered teaching. It involves taking over subjects from various points of view, and the teacher’s role is not to dispense or communicate knowledge, but to act as a moderator. The teacher does not dictate or influence the view points of the students as he moderates the discussion.

There is no doubt that many teachers have experienced days when spontaneous discussions arose even though they were unplanned. Discussions are therefore, as important as learning process because it is a way of considering various facts of problem and also because it lays the groundwork for the many discussion situations in which young

people and adults are constantly taking part Jane (2016). In a different way, discussion implies the participation of pupils in the process of learning by evaluating points of view, raising issues of their own, and seeking solutions based upon study, examinations and group analysis under the teacher's guidance (Dennis, 2016).

Inquiry Teaching Method

Inquiry teaching method as opined by Celeb (2014) is built on discovery, and as both methods seem to be tied up with each other, inquiry is done with a view of finding some answers or reasons why a certain problem exists. Inquiry investigations go further than discovery and so the learner needs to use all his discovery capabilities in order to succeed in the inquiry (Clark, 2015). The inquiry involves the unraveling of the hidden relationship of nature. In order to conduct inquiry successfully, the learner must exhibit certain relatively sophisticated mental processes. In an inquiry exercise, the investigator originates his own problem, he designs his own experiments or procedures for collecting data or relevant information and he arrives at his own conclusions and subsequent principles involved (Jane, 2016). Inquiry technique of teaching according to Marilla (2016) involves guided inquiry, free inquiry and modified free inquiry. A brief discussion of these teaching techniques is presented below:

Usage of Guided-discovery and Problem-Solving Teaching Method in Teaching Financial Accounting

The successful learning of accounting in secondary schools depends largely on the correct use of teaching methods, whose activities targets most learning experiences (Bello, 2013). Students may learn names and definitions of different accounts in the accounting syllabus through the use of guided-discovery method theoretically, but to master the application of accounting entries, a proper demonstration is involved to ensure students observe the teacher properly, and subsequently apply the knowledge of demonstration and what they have seen and learnt to solve an account. Using demonstration teaching, the

teacher could give a demonstration or a format expected to be used in solving a specific account, as well as emphasize and explain specific important points with regards to the format. According to Ken (2014) Demonstration method gives every student the ample opportunity to see critical elements involved in solving out an account. Through guided discovery method of learning, the teacher may guide the class through various steps in working and application of figures in the format demonstrated. Where demonstration method of teaching ends, guided discovery method of teaching begins.

Therefore, practice is useful in Demonstration and Guided-discovery Teaching Method. If the teacher is showing the class how to solve an account problem, he would first explain the format to the students, put them through on the step by step procedure of applying it, tell them why it should be applied and then guide them through the critical and fundamental aspects of the account. The students would therefore play their own parts by repeating the performances many times as they put the workings together in proper format using sequence and timing. Proper timing should be given to students to practice the account either by themselves or with a partner where necessary (Ubah, 2014). The teacher would then serve as a motivator by walking round the class, making corrections and providing necessary encouragement. At the end of the lesson, the students would be required to discuss points of emphasis. The teacher should know the methods available and should consider the advantages and disadvantages of each of them in order to make the best use of them in teaching Financial Accounting. According to Obi (2010) sometimes the use of a single method could be difficult in teaching accounting therefore it is advisable for a teacher to combine two or more methods to achieve his objective.

As opined by Kar (2017) the choice of methods to be used in teaching Financial Accounting in Secondary Schools depends on several factors which include aims and objectives, age of the learner, the topic and the training and experience of the teacher. A brief

discussion of these factors is presented below:

Aims and Objectives

This is an important factor in determining the choice of method to be used in teaching accounting in secondary schools. If the aim of a particular topic is to enable students balance account properly, then it becomes obvious that this cannot be achieved through lectures or discussion, but by actual practical activity where students perform the workings after being illustrated by the teacher.

Age of the Learners

A teacher should select methods where young learners can watch, hear and imitate his actions. For example, in teaching trading profit and loss account, the teacher should demonstrate to the students the format and guide them on how they can apply the figure to the format. Young people should not be subjected to lecture method when it comes to accounting since their attention span and level of "abstract thinking" is still very low. Teachers are therefore advised to study the teaching methods well and get conversant with them.

The Topic

Financial Accounting is a broad subject, with a lot of educational goals to be achieved. It therefore consists of various topics in which different teaching methods are to be applicable for best results. For example, some topics in accounting are theoretical, while some topics involves practical. A teacher therefore should not use the same methods in teaching both the theoretical topics and those topics that requires real practice. Teachers therefore should refer to the work of Piaget as a guide for only formal operations and concrete operational stages in teaching Financial Accounting in secondary schools.

Training and Experience of Teachers

The training and knowledge base of a teacher is very important. When a teacher is

well trained on all methods of teaching, he becomes more confident in methods to use in teaching accounting and is more likely to succeed. It is better for a teacher to use poor methods, which he can handle well than a good method clumsily handled. Different methods are better experimented during training.

Review of Related Empirical Literature

For the purpose of this study, a few empirical studies were reviewed. A research work was conducted by Mohidin, Jaidi, Sang and Osman (2009) on effective teaching methods and lecture characteristics on Accounting Students at University of Malaysia, Sabah (UMS). The study was to enlighten the perceptions of undergraduate Accounting students on the teaching methods and lecturer characteristics that they considered as effective in their learning process. The research design adopted was the descriptive survey method. The population for the study was the entire students studying accounting at the school of Business and Economics, UMS, excluding the fourth year students. A total number of one hundred and fifty (150) copies of the questionnaire were given out to students to fill but one hundred and seven (107) were returned and used for the study. The independent variables consisted of teaching methods and lecturer characteristics. The following alternative hypotheses guided the study: there is a significant relationship between the learning-centered approach and effective teaching; there is a significant relationship between the teaching-centered approach and effective teaching; there is a significant relationship between the knowledge expertise of the lecturer and effective teaching; there is a significant relationship between the attitude of the lecturer and effective teaching and there is a significant, relationship between the personality of a lecturer and effective teaching.

The findings revealed that all independent variables had a positive influence on effective teaching as perceived by students especially when single regression was employed. The results were slightly different when multiple regression was used. Out of five

independent variables, only four showed significant positive relation toward teaching effectiveness as perceived by students. The analysis further explained that lecturer characteristics also played an important role in determining teaching effectiveness especially in accounting subjects.

The present study is similar to the past study being reviewed in that both studies aimed at determining the effectiveness of using different methods of teaching Financial Accounting in order to ascertain the most effective method. The previous researchers made very good efforts in the research work though the study covered only one university. The researchers should have used a wider area since it was a survey work. The present study, however, differs from the past study under review. The present study is a quasi-experimental research whereas the study under review was descriptive survey research. In addition, the scope of educational institution of the present study would be Colleges of Education in North Central states, Nigeria whereas the past study being reviewed covers University students in Sabah, Malaysia.

A related research was conducted by Olowodun (2009) on the strategies for effective teaching of accounting in senior secondary schools in Kaduna State. A descriptive survey design was used for the study. The study involved a population of one hundred and five (105) Accounting teachers in Seventy (70) public and private senior secondary schools in five (5) Education Divisions in Kaduna State. The entire population was used. The research question that guided the study was what planning strategies for effective teaching of accounting in senior secondary schools are utilized in Kaduna State? The null hypothesis which was tested at 0.05 level of significance was, there is no significant difference in the mean responses of urban and rural teachers regarding planning strategies for effective teaching of accounting utilized in senior secondary schools in Kaduna State. The researcher used a structured questionnaire with fourteen (14) items to elicit information from

accounting teachers in the urban and rural areas in Kaduna State. The questionnaire was scored using the four-point Likert rating scale. The statistical tool for testing the null hypothesis was t-test. Based on the data collected and analyzed, the findings of the study included:

a. learning activities must be well planned so as to achieve their objectives.

b. learning experience be planned at the level of maturity and ability to the learner

c. adequate preparation ensures effective teaching

d. well planned activities should contain materials and teaching aids needed to carry out the plan.

e. the use of instructional materials should be planned by the teacher

f. the teacher should structure instruction to meet the student individual needs.

The present study differs from the study being reviewed because the former, was a quasi-experimental whereas the latter adopted descriptive survey design. The population of the present study comprised of only Public Colleges of Education Students offering Financial Accounting in North Central States, whereas the past study being reviewed comprised Financial Accounting teachers from both public and private secondary schools in five education inspectorates in Kaduna State. However, the study helped the researcher to obtain current knowledge on strategies for effective teaching of Financial Accounting which will serve as guide during experimental work.

However, the students input on the strategies for effective teaching of Accounting should have been considered. This is because the students are the direct beneficiary of effective teaching in learning process. Both studies however, used students' scores to determine their performance in accounting using three teaching methods.

Another related research study was carried out by Adamu (2010) on the influence of teacher's methodology on performance of accounting students in Nigerian Universities.

Two research questions were raised among which is, to what extent does teaching method enhance an effective teaching and learning of Accounting in Nigerian Universities. Two null hypotheses were formulated and the research design adopted was descriptive survey design. The population of the study consisted of 59 lecturers and 650 students from six Nigerian Universities running Business Education programme. Instrument for data collection was four point Likert scale structured questionnaire of fourteen (14) items. Pearson Product Moment Correlation was used for testing the null hypotheses and the reliability coefficient stood at 0.05 level of significance. The result of the study revealed that lecturers' methodology facilitated the teaching and learning of Accounting. Recommendations were made among which is, that an accounting lecturer should adopt assignment method of teaching as this will aid students and lecturers to improve the potentials for success in accounting.

This research is similar to the past study since both aimed at determining the effective methodology for teaching accounting. However, the present study covered all Colleges of Education students offering Financial Accounting in North Central States, whereas the past study covered both students and teachers in Nigerian Universities. The research design adopted in the present study was quasi-experimental design while the past researcher adopted descriptive survey design. However, the past study benefited the current work in literature review and helped the researcher to identify the extent to which teaching methodology adopted in teaching accounting can influence student's performance and teacher effectiveness. Although, the past researcher conducted a good research work, the study could have indicated the location of the six universities covered so as to guide other researchers for further study. The present study indicated the location of all Colleges of Education being used.

Ekhasemomhe (2010) investigated the effect of guided discovery learning on students' achievement in Final Account in Financial Accounting in Colleges of Education in

Edo State. This main purpose of the study was to explore the effect of guided discovery learning on student's achievement in final account in financial accounting in colleges of education in Edo State. Four specific purposes were stated, four research questions were raised and three research hypotheses were formulated to guide the study. The study adopted a quasi-experimental design, specifically, the pre-test, post-test non-equivalent control group design. Four research questions and three null hypotheses guided the study. The study was conducted in the two colleges of education Edo State. This study involved the use of intact classes. Out of the two colleges of education one school was assigned to experimental group while the remaining school was assigned to the control group. The experimental group was taught guided discovery learning approach while the control group taught using the conventional (lecture) method. Financial Accounting Achievement test was used for data collection. Mean was used to answer the four research questions while ANCOVA was used to test the three null hypotheses at $P<0.05$, the result revealed that guided discovery learning approach was more effective in facilitating student achievement. The female student's benefited more significantly than their male counterparts in Achievement test using guided discovery learning approach. Based on the findings it was recommended that guided discovery learning approach should be adopted in our school system for teaching Financial Accounting and that teachers should be trained on the proper use of guided discovery learning approach. This study therefore calls for urgent review of the current instructional approach to ensure full incorporation of the guided discovery learning model.

The past study is closely related to the current study; both considered guided discovery and lecture methods of teaching in Financial Accounting in Colleges of Education. Though, the past study was carried out in Edo state the present study was carried out in North Central States of Nigeria. Both studies used quasi-experimental design as research design.

However, the past study differs from the present study in the following ways: four specific purposes, four research questions and three research hypotheses. The actual population of the study was not specified and the sample size was also not stated in the study, unlike the present study which had research questions, hypotheses, population and sample size clearly stated.

Oghenevwede (2010) examined the effect of discovery and inquiry approaches in teaching and learning of Biology on Secondary Schools Students' performance in Delta State, Nigeria. The researcher formulated four (4) null hypotheses; it employed a quasi-experimental design. The instrument named Biology Achievement Test (BAT) was used for data collection, total population was two hundred and eighty-four (284) out of which one hundred and fifty (150) were used as samples. The data collected were analyzed using analysis of co-variance (ANCOVA) at 0.05 level of significance. The major findings of the study indicated that discovery method was more effective and better than the inquiry method in teaching biology; the level of retention was higher in students taught with discovery method than students taught with inquiry method. Based on the finding the researcher concluded that the discovery method was better and more effective than inquiry method. Though the sample size of one hundred and fifty students out of the total population of two hundred and eighty-four students is adequate enough, there are similarities between the present study and that of the past research. Both pre-test and post-test were used in the current research.

The past study and the present study are closely related in terms of guided discovery, academic performance of students. The past study was carried out in Biology in secondary school in Delta state while the current study is in Financial Accounting in Colleges of Education in North Central states both in Nigeria. The both studies employed quasi-experimental design as research design. Both studies used pre-test and post-test.

Umar (2010) investigated whether the inquiry (guided-discovery) method of teaching had any significant advantage over exposition (conventional) method of teaching Financial Accounting in secondary school students in Zaria township in Kaduna State, Nigeria. The researcher collected data from a sample of forty two (42) students, out of a total population of one hundred and eighty seven (187) students. The researcher answered four research questions and also tested four null hypotheses. Descriptive statistics, frequency counts, means and percentages were used to answer the research questions, while T-test and Z-test were used in testing the four (4) null hypotheses at 0.05 level of significance. The researcher used pre-test and post-test approach. The researcher determined whether there was any significant difference in the mean achievement of the experimental group (taught using the inquiry method) and that of the control group (taught using the conventional method). Furthermore, the researcher investigated the differences in the performance of male and female students in both experimental and control group.

The result showed that the students in both groups performed better in the post-test than pre-test. Also, there were significant differences between the pre-test and post-test mean performances of the students in Financial Accounting. The difference between this present study and that of past researcher is that this study is limited to state Colleges of Education, Principles of Accounting 100 level, with four research questions and four null hypotheses. There are similarities between this present study and the work of the past researcher because in both, pre-test and post-test were used with control and experimental group.

Both studies are closely related in terms of the use of guided discovery, lecture methods of teaching. Both studies were carried out to ascertain the effectiveness of teaching methods on academic performance in Financial Accounting. However, the past study was carried out at the senior secondary school level at Zaria city in Kaduna state while the present

study was carried out in Colleges of Education in North Central States. The present and past studies used pre-test and post-test using experimental and control groups.

Ibrahim (2011) conducted a research on impact of accounting background, gender and motivation on performance of business education students in introductory accounting in federal universities in Nigeria. The study adopted quasi-experimental research design, population for the study comprised of one hundred and eleven (111) 100 level business education students from eight (8) federal universities offering business education in Nigeria. Three federal institutions namely: Ahmadu Bello University, Zaria, Kaduna State, University of Benin, Benin-city, Edo State and University of Nigeria, Nsukka, Enugu State were used as sample. The study utilized Financial Accounting Achievement Test (FAAT) as instrument for data collection which is of two parts, that is, pre-test and post-test items. Frequency distribution, mean, mode and percentage (%) were used to analyzing data of demographic variables. Independent t-test was used to test the null hypotheses. The research findings reviewed, among others, was that gender did not, have any positive impact on student‘s performance. Based on research findings, five recommendations were made one of which was that, students’ wrong perception of accounting as a difficult subject should be discouraged by teachers, guidance counsellors and parents.

The present study is similar to Ibrahim‘s study as both studies employed Financial Accounting Achievement Test (FAAT) as an instrument for data collection and the experimental group for both studies comprised three groups. However, the present study differs from the study being reviewed in that; study was field experiment whereas the study being reviewed adopted quasi-experimental design. The target population for the present study comprised 200 level Business Education students both male and female offering Financial Accounting from thirteen (13) Colleges of Education in North Central States, Nigeria, while the target population for the past study under review were 100 level business

education students offering business education from eight (8) federal universities in Nigeria. Also, the present study used two types of statistical test to test the null hypothesis and the past study being reviewed adopted one statistical method in testing the hypotheses. The present study is experiment was conducted within Colleges of Education while the past study used three universities.

A related research work was conducted by Magaji (2011) on information communication technology and business education students' academic performance in accounting in Nigeria Federal Universities. The study involved all lecturers and 400 Level accounting option students in business education in federal universities in Nigeria. The study adopted a descriptive survey design with total target population of three hundred and sixty one (361), the whole population was used. Structured questionnaire was used as an instrument for data collection. Mean and Standard Deviation were used for data analysis while PPMR was used to test relevant null hypotheses. The major findings of the study, include among others, that business education students in Nigeria Federal Universities do not have the requisite skills and proficiency for operating ICT. Based on the research findings, it was recommended that ICT should be integrated into the curriculum of business education to enable students develop skills and be computer literate.

The present study is similar to the past study being reviewed, as both studies aimed at analysing students' performance in Financial Accounting. It is also similar in the area of data analysis, both studies adopted mean and standard deviation for data analysis. However, the present study differs from the past study under review in the area of institutional level. The present study focused at Business Education students in Colleges of Education while the past study focused on undergraduate Business Education students in universities. Also, the present study adopted quasi-experimental design while the past study being reviewed adopted descriptive survey design. The population for the past study comprised both lecturers

and students of business education accounting option while the current study was only students. Present study utilized FAAT as instrument for data collection while the reviewed work used a structured questionnaire as instrument for data collection. T-test and ANOVA statistical method were used to test null hypotheses in the present study while the past study under reviewed adopted PPMR in testing all hypotheses. Meanwhile, the past study benefitted the current study in the area of literature review. Magaji (2011) did not indicate names and numbers of federal university covered in the study. The present study indicated total number of Colleges of Education offering Business Education in North Central States as at the time of this study.

Luntungan (2012) conducted a study to explore the effects of guided and conventional teaching methods in business instruction and students' attitude toward the class on students' academic performance. The respondents were 135 college students from an Indonesian university. Both the experimental and the control groups took the same course taught in two different sections. For two weeks, one teacher taught the two sections the same course using different teaching methods. In the experimental group containing fifty-eight (n=58) students the teacher used direct small group activities and lectured in the comparison group (n=77). Two-way ANCOVA statistics and t-tests were used to test null hypotheses at 0.05 level of significance. The results showed that while both teaching methods had a significant effect on students' academic performance, the small group study group performed better. The results also showed that students' attitude toward the class did not affect academic performance; however, students' attitude were affected by the teaching methods used in the class.

There are differences between this present study and that past study because the present study was carried out in Nigeria while the past study was done in Indonesia. Also present study compared guided discovery method and gender while that of the past study

was on effects of small group activities on conventional method of teaching. There is similarity because present study used both experimental and control groups which were also used in the past researcher's study.

Ibe (2013) investigated the effects of guided-inquiry and expository teaching methods on students' performances and interest in Biology. Students' performances in the sciences (Biology) had been below expectation. The performances of the students in the Researcher-Made Biology Test (RMBT) using the expository method and guided-inquiry were compared. Furthermore, the interests of the two groups of students in Biology were compared. Purposive samples of 84 senior secondary school two (SSS II) students were drawn from two intact classes in a co-educational secondary school in Imo State. Two instruments were used for the study namely Biology Achievement Test (BAT) and Biology Interest Scale (BIS). The reliability of BAT was established at 0.78 through the use of Kuder-Richardson (K-R 20) statistic. The reliability of Biology Interest Scale (BIS) was calculated through the use of Cronbach Alpha. The research questions were answered using Means and Standard deviations while the null hypotheses were tested using Analysis of Co-variance (ANCOVA) at 0.05 level of significance. Major finding of the study included the following: Teaching methods had statistically significant effect on students' performances in Biology. Students taught with guided-inquiry teaching method performed better than students taught with expository teaching method in Biology. The female students performed better than the males in the RMBT. The female students had higher interest levels in the RMBT than the males. The researcher recommended among other things that Biology teachers and Science teachers in general should take into consideration these teaching methods when presenting Biology and Science materials to the students in the classroom.

The present study and the past study have teaching methods and academic performance in common. Though the past study was carried out in Biology at secondary

school level and the current study is being carried out in Financial Accounting at College of Education level. The present study is being carried out using 200 level students of Business Education department in Colleges of Education in North Central States, it will also compare three methods of teaching Financial Accounting.

Mutuah (2014) carried out a research on the effects of cooperative learning, problem-solving and strategies on junior secondary school students' performance in Business Studies in Kaduna state. The main objective of the study was to determine the effects of cooperative learning, problem-solving and strategies on junior secondary school student's performance in business studies in Kaduna state. Six specific objectives were stated, six research questions were raised and six null hypotheses were formulated. Related literatures were reviewed in the study. The population of the study was 39,227 respondents and the sample size was 270 respondents. The instrument used in collecting data was standardized business achievement test (SBAT). Data collected from the study was statistically analyzed using mean, standard error and standard deviation for the research questions, and the null hypotheses were tested using independent t-test at 0.05 level of significance.

One of the findings revealed that there was significant difference between the mean performances of students taught business studies using cooperative learning than those using lecture strategies, it was concluded that cooperative learning strategy was the most effective method in teaching business studies in junior secondary schools. The recommendation was that teachers should help students along the road to independent learning. The previous study is similar to the present study because it made use of independent t-test in analyzing the data, but different because of the level which was junior secondary schools, and the subject which was business studies.

The previous study is closely related to the current study in term of a variable i.e. problem solving teaching method. The past study is based on Business Studies at Junior

Secondary schools in Kaduna state while the current study considered Financial Accounting at Colleges of Education in North Central States. The past study did not mention the type of research design used for the study while the current study used quasi experimental research design.

Ezegwui (2014) carried out a study on comparison of guided discovery method and lecture method of teaching Financial Accounting in Secondary Schools in Enugu North Local Government Area. The major purpose of this study was to compare the effect of guided discovery method and lecture method of teaching Financial Accounting in secondary schools in Enugu North local government area. Six research questions were addressed and six null hypotheses were formulated respectively to guide the study. The population for the study consisted of 100 SSII accounting students drawn from two secondary schools – Iva-valley Community Secondary School and Coal Camp Secondary School Ogbete in Enugu State. Quasi experimental study was used for the study. Financial Accounting Achievement Test (FAAT) was used to generate data for the study. Two intact classes were involved in the study, one for experimental group and the other for control group. Students in experimental group were taught final accounts using guided discovery method while those in control group were taught using lecture method. Post-test and pre-test were administered to both control and experimental groups. Two research assistants (one for control group and one for experimental group) were trained. Two sets of lesson plans (one for experimental and one for control groups) were also developed by the researcher to teach both the control and experimental groups for the period of six weeks. The instrument was face validated by three experts, two experts from Department of Vocational Teacher Education, University of Nigeria, Nsukka and one from Measurement and Evaluation, Department of Science Education, University of Nigeria, Nsukka. Trial testing was done using 20 SS II students of Girls Secondary School Uwani. Kuder-Richardson formular 20 was used to compare the

internal consistency of the validated instrument and this yielded a reliability coefficient of 0.75. Data were analysed using mean statistics for the research questions and ANCOVA was used to test the null hypotheses at 0.05 level of significance respectively. Result of the study revealed that: Students exposed to lecture method performed well in their achievement test but those exposed to guided discovery learning achieved better in final account. Gender has significant effects on achievement of students using guided discovery learning method. The male students benefited more significantly than their female counterparts in the achievement test. In lecture method, gender has a significant effect on achievement of students. The male students benefited more significantly than their female counterparts in achievement test. Thus, male students achieve more in the achievement test than the female students. Based on the findings, it was concluded that guided discovery method of learning affected students' achievement more positively than lecture method when used in teaching final accounts. Although male and female students in the experimental group had greater gain in achievement than those in control group, male students performed better than female students in the achievement test. It was recommended that accounting teachers should incorporate guided discovery method as one of the methods used in teaching and learning Financial Accounting.

The past study is related to the current study in term of variables like guided discovery, lecture method, Financial Accounting. Though the past study considered Financial Accounting at Secondary School Level, this present study is considering Financial Accounting at College of Education level. The past study was carried out in secondary schools in Enugu East Local Government area while the current study is being carried out in Colleges of Education in North Central states. The past study compared two methods of teaching while the current study is comparing three methods of teaching. However, the two studies are similar as they both used experimental group and control group.

Onaolapo (2015) conducted a study on influence of socratic and interactive methods of teaching Financial Accounting on performance of secondary school students in Katsina metropolis, Nigeria. The main purpose of the study was to find out the influence of Socratic and Interactive methods of teaching Financial Accounting on performance of Secondary School Students in Katsina Metropolis, Nigeria. Four objectives and four research questions with four related null hypotheses were formulated. The study was delimited to the use of two teaching methods, and SS11 students' both male and female from eight public Senior Secondary Schools covering the four inspectorate division in Katsina State. Works of other researchers relevant to the study were reviewed under eight sub-headings. The research design adopted was quasi-experimental design. The population for the study comprised of 1077 SS11 students' for 2014/2015 Academic Session. Purposive Sampling Technique was used in the selection of the schools for the experiment, while Hat and Drawn Technique was used for the selection of samples. Percentage was used in analyzing the bio-data of the respondents. Mean and standard deviation were used to answer the four research questions. Independent t-test was used to test null hypotheses one, two and three and Analysis of Variance (ANOVA) and Post Hoc Multiple Comparison Test were used to test hypothesis four, all null hypotheses were tested at 0.05 level of significance. The findings revealed, among others, that there was significant difference in the performances of secondary school students' taught Financial Accounting using Socratic method and those taught using interactive method. It was concluded, that one of the most effective method of teaching Financial Accounting to achieve students' academic performance in secondary schools is the interactive method. Based on the findings, it was recommended, among others, that Teachers should intensify efforts in the use of interactive method in teaching Financial Accounting in secondary schools in Katsina State as this will enhance students' academic performance in the subject. Students should, as well, be adequately involved in the teaching

and learning process, hence the need for Socratic method.

The present study is similar to the past study under review such that both studies aimed at determining effectiveness of teaching methods on academic performance of students in Financial Accounting. Both studies adopted quasi-experimental as research design. The present study differ from the past study in the following areas: the location of the present study is North Central States and that of the past study was in Katsina state, the present study is using guided discovery and problem solving teaching methods while the past study used socratic and interactive methods of teaching. The present study is being carried out at College of Education level and the past study was carried out at senior secondary school level.

Moradeyo (2015) conducted an experiment on influence of guided-discovery, lecture method and gender on accounting students' performance in Colleges of Education in south-west geo-political zone, Nigeria. The major objective of the research was to investigate the influence of guided-discovery, lecture method and gender on the performance of business education students in principles of accounting in state Colleges of Education South-West Geo-Political Zone, Nigeria, with a view to establishing whether or not guided discovery, lecture teaching method and gender have influence on students' performance in Principles of Accounting. The study had four specific objectives, four research questions and four related null hypotheses. The target population comprised six colleges of education in south-west geo-political zone Nigeria with total population of 1764 while 64 students were used for the study as the sample. The instrument for the study comprised Instructional Package for Principles of Accounting (IPPA) and Principles of Accounting Achievement Test (PAAT) were used for data collection. Pre-test and Post-test were administered to the sampled students. Table and frequency distribution were used in answering the research questions while t-test was employed in testing null hypotheses at 0.05 level of significance. Only one hypothesis was retained while the three other null hypotheses were

rejected. The findings revealed that Guided-discovery teaching method was effective for teaching and learning Principles of Accounting in Colleges of Education. Therefore, it was concluded that Guided-discovery teaching method can enhance business education students' performance in Principles of Accounting. It was recommended that guided-discovery teaching method should be applied in teaching Principles of Accounting.

The past study and the current study have in common the following: the present study is considering guided discovery, problem solving and lecture methods of teaching while the past study considered guided discovery, lecture method and gender, both studies were carried out in Financial Accounting at College of Education though in different zones. The present study is being carried out at Colleges of Education located in North Central States while the past study was carried out Colleges of Education in South-West Geo-Political Zone, Nigeria.

Both study used quasi-experimental design as the research designs. The past study covered six Colleges of Education in the study area while the present study covered thirteen Colleges of Education in its study.

The review of related empirical literature shows that several studies in Nigeria and outside the country have focused on areas similar to this study. However no study, to the researcher's best knowledge has investigated the effect of guided discovery and problem solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education in North Central Geo-Political Zone of Nigeria.

Appraisal of Reviewed Literature

The theoretical framework was based on Gestalt theory of problem solving and Bruner Constructivist Learning Theory. The theory states that learning is a process in which the learner is able to build on present and previous information through practice and activity. The major concepts used in this study were guided-discovery teaching method, problem solving teaching method, academic performance and Financial Accounting.

Problem solving instruction which represents one of the most important practices of constructivism is based on Dewey's principle of learning by doing and by experiencing. Problem solving strategy is a learner centered teaching approach which makes sure that learners describe the problem related principles and concepts perform research and learn how to learn and in which real life problems are used.

Guided discovery is a teaching method that enable learners create their own learning experience, with the guidance of their teacher. This method has recently been emphasized in modern teaching. It has been identified as providing meaningful learning and thus teachers are encouraged to use them. However, in Guided discovery teaching, the instructor guides the student's thought process by posing a series of questions whose responses would lead to the understanding of a concept before it is explicitly stated.

Academic performance is the result of students' mental ability in an educational setting. David (2017) opines that students' academic performance involves the general mental capability to reason, solve problems, think abstractly, learn and understand new material through profiting from past experience, which in turn will be measured against the stated specific objectives. Some factors that influences students' academic performance includes: teaching methods, the teachers qualification, school environment and instructional materials

Accounting is the recording, classifying, creating, summarizing and communicating of financial information to interested parties and interpreting to help in making specific business decisions. Accounting records are kept to evaluate the performance and profitability of the business organization, prevention of fraud, monitoring of the enterprise progress and for making economic comparison. The keywords in the above definition are: information, identification, measurement and communication.

Based on the reviewed empirical studies, the researcher has observed that none of the researchers has stressed on the relevance of any of the methods on academic performance of

students in Financial Accounting. This is the main gap this study wants to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter outlined the specific methods and procedures used in this study. The chapter was discussed under the following sub-headings:

Research Design

Population of the Study

Sample Size and Sampling Procedure

Instrument for Data Collection

Validity of the Instrument

Pilot Study

Reliability of the Instrument

Method of Data Collection

Method of Data Analysis

Research Design

The research design used for this study was quasi-experimental design. The researcher used intact class for the study. Also, the study had both experimental and control groups, involving pre-test and post-test. Experimental design according to Olayiwola in Yusuf (2013) is the manipulation of independent variables, control of extraneous variables, the use of control and treatment groups and measurement of dependent variables through the use of statistical tools. Furthermore, this design was used because the experiment took place in normal school settings where randomization or assignment of subjects to experimental and control groups was not possible (Ezenwosu & Nworgu, 2013).

Population of the Study

The population of the study was 8923.The population of the study comprised of Business Education students in the Federal and State Colleges of Education in the study area. The breakdown is shown in Table 1.

Table 1: Population of the Study

S/N	Name of College	State	No. of male students	No. of female students	Total
1.	College of Education, Kastina-Ala	Benue	360	208	568
2.	College of Education, Oju	Benue	170	196	366
3.	Federal College of Education, Okene	Kogi	350	430	780
4.	Kogi State College of Education, Ankpa	Kogi	126	99	225
5.	Kogi State College of Education, (T), Kabba	Kogi	145	159	304
6	Kwara State College of Education, Ilorin	Kwara	640	632	1272
7.	Kwara State College of Education, Oro	Kwara	203	370	573
8.	Kwara State College of Education, (T), Lafiagi	Kwara	532	345	877
9.	Nigerian Army School of Education, Sobi, Ilorin	Kwara	120	50	170
10.	Nassarawa State College of Education, Akwanga	Nassarawa	345	920	1265
11.	Federal College of Education, Kontagora	Niger	320	315	635
12.	Niger State College of Education, Minna	Niger	450	320	770
13.	Federal College of Education, Pankshin	Plateau	288	320	608
14	College of Education, Gindiri	Plateau	230	280	510
	Total		**4279**	**4644**	**8923**

Source: Departmental Exam Offices, 2018

Sample Size and Sampling Procedure

Three Colleges of Education were selected for the experiment from the fourteen Colleges of Education offering Business Education, North Central, Nigeria. They were Federal College of Education, Okene, Kwara State College of Education, (T), Lafiagi and Federal College of Education, Kontagora. The Colleges of Education were chosen

purposefully because the researcher wanted both federal and state Colleges of Education to be represented. The number of students in each College of Education were the students of 200 level. The breakdown of the sample size of the study is as given in Table 2

Table 2: Sample Size of the Study

Treatment Groups	College of Education	State	No. of male students	No. of female students	Total
Experimental Group I	FCE, Okene	Kogi	133	147	280
Experimental Group II	COE (T), Lafiagi	Kwara	179	115	294
Control Group	FCE, Kontagora	Niger	102	115	217
Total			**414**	**377**	**791**

Source: Researcher's Design, 2018

The three Colleges of Education were selected using purposive sampling. Random technique was also used to assign the three Colleges of Education to the experiment groups. Hat drawn technique was adopted, where E I (Experimental group I, guided discovery teaching method), E II (Experimental group II, problem solving teaching method) and C (control group, lecture method) were written on pieces of paper and folded. The papers were put in a container and shuffled very well before three people were asked to pick one for each College of Education (Federal College of Education, Okene, Kwara State College of Education (T), Lafiagi and Federal College of Education, Kontagora). After using this procedure Federal College of Education, Okene, was assigned to E1 (Experimental group I, guided discovery teaching method), Kwara State College of Education (T), Lafiagi was assigned to E II (Experimental group II, problem solving teaching method) and Federal College of Education, Kontagora was assigned to the control group (Control group).

Instrument for Data Collection

The study used the researcher's developed Financial Accounting Achievement Test (FAAT) as instrument for data collection. Financial Accounting Achievement Test (FAAT)

comprised both pre-test and post-test. Pre-test consist of 40 multiple choice objective questions with four (4) options A-D each, where the students were expected to choose the correct option, after which it was marked by the researcher with marking scheme prepared (see Appendix C) with Answers (see Appendix D). The post-test consist of one theory question on manufacturing account taught (see Appendix F), with solution (see Appendix F).

Validity of the Instrument

Financial Accounting Achievement Test (FAAT) was scrutinized and vetted by experts in the Department of Business and Entrepreneurship Education, Kwara State University, Malete, not below the rank of Lecturer I. Suggested modifications on the test items were effected before the tests were administered to students in the selected Colleges of Education. (see Appendix B)

Pilot Study

In order to establish the reliability of the Financial Accounting Achievement Test (FAAT), a pilot study was conducted using 40 students in 200-level at Business Education Department, FCT College of Education, Zuba, which is located outside the study area. Both pre-test and post-test components of the instrument were administered to 200 level Business Education Students. This is because the college had accredited Business Education programme and the subjects have similar characteristics with the school.

Reliability of the Instrument

The reliability of the instrument was determined by statistical analysis of the data collected from the pilot study. The Cronbach Alpha was used to determine the reliability of the research instrument which yielded 0.86. According to Hair, Hult, Ringle and Sarstedt (2010), the Cronbach Alpha value of more than 0.70 is acceptable and sufficient for a study instrument. This suggested that the research instrument was reliable.

Method of Data Collection

The researcher collected letter of Introduction (see Appendix A) from the Department of Business and Entrepreneurship Education, Kwara State University, Malete, to introduce the researcher to the subject institutions. A period of six weeks was used to collect data for this study. The researcher used the first week to introduce himself to all the Heads of Department of the Colleges of Education purposively selected for the study with the formal letter collected from the department for identification. Also, in the same week, the researcher conducted pre-test. He used the second to fifth weeks to teach guided discovery and problem solving teaching methods (experimental) and lecture method (control) instructional method groups. Sixth week was used for conducting post-test and marking of the tests.

The lecture period lasted for five weeks comprising single period which lasted for two hours per week. The first 45 minutes was used solely for worked examples and the remaining one hour fifteen minutes was used for instructional activities on the selected topics on Financial Accounting. All the students in both groups were subjected to pre-test (see Appendix E) marked by the researcher using marking scheme (Appendix F). The pre-test scores served as a basis for comparing students' performance and level of their understanding in Financial Accounting before treatment began. Familiarization, creation of conducive environment and establishment of rapport and trust with the students were done.

The experimental groups were taught Financial Accounting using Guided discovery and problem solving methods, and graphical representations was employed to guide students' cognitive process and mental road maps on important points. Relevant questions were carefully matched with the relevant concepts. The concepts were organized logically to facilitate easy information processing and as stimuli to elicit students' response to relevant questions. Practical works on Financial Accounting were given to students after each

classroom instruction session, while the control group was taught Financial Accounting using lecture teaching method with whiteboard and the recommended accounting textbook as in (see Appendix C). There was no time for students' interaction in this group. The researcher used intact class and teaching was done based on the school time-table. After six weeks of lecture the students were subjected to post-test as in (see Appendix F) and marked by the researcher using marking scheme (see Appendix G).

Method of Data Analysis

In analyzing the data collected, descriptive statistics such as frequency distribution mean and standard deviation were used to answer all research questions. Paired sampled t-test statistical tool was used to test null hypotheses one, two and three. Paired sampled t-test was considered appropriate for analyzing the difference between the mean of two groups. Analysis of variance (ANOVA) and Post Hoc Multiple Comparism test were used to test hypothesis four at 0.05 level of significance. One way Analysis of Variance (ANOVA) was considered appropriate for hypothesis four because the hypothesis is comparing the means of more than two groups (guided discovery teaching method, problem solving teaching method and lecture groups).

Decision Rule: For the research questions, any group with the highest mean value was adopted to have performed better and any group with the lowest mean performed the least. The null hypotheses were retained when the observed probability rate is equal to or greater than the fixed level of significance (0.05) and the null hypotheses were rejected when the observed probability rate is less than the fixed level of significance (0.05).

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This research was conducted to determine the effects of guided discovery and problem solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The chapter deals with the presentation and analysis of the research data and discussion of findings. The analysis was carried out under the following sub-headings:-

Analysis of Demographic Variable of the Respondents

Analysis of Data to Answer the Research Questions

Test of Research Hypotheses

Summary of Major Findings

Discussion of Findings

Analysis of Demographic Variable of the Respondents

Table 3: Percentage Distribution of Respondents According to Gender

Group	Variables	Male (%)	Female (%)	Total (%)
Experimental$_1$	Guided Discovery	111 (44.4)	139 (55.6)	250 (100)
Experimental$_2$	Problem Solving	139 (51.1)	133 (48.9)	272 (100)
Control	Lecture Method	89 (46.4)	103 (53.6)	192 (100)
Total		**339 (47.3)**	**375 (52.7)**	**714 (100)**

Source: Field Study, 2018

The analysis of data in Table 3 reveals that there were 339 males students representing 47.3% and 375 females' respondents representing 52.7%. This implies that there were more female Business Education students than male in Colleges of Education, North Central, Nigeria.

Table 4: Percentage Distribution of Respondents According to Age

Age Range In Years	Frequency	Percentage (%)
15 – 20	367	51.4
21 – 30	204	28.6
31 – 40	93	13
41 years and above	50	7
Total	**714**	**100**

Source: Field Study, 2018

The analysis of data in Table 4 reveals that there were 367 students of the age range 15 years-20 years representing 51.4%, 204 students of the age range 21 years-30 years representing 28.6%, 93 students of the age range 31 years -40 years representing 13% and 50 students of the age range 41 years and above representing 7%. This implies that there were more younger Business Education students than older Business Education students in Colleges of Education in North Central Geo-political zone of Nigeria.

Analysis of Data to Answer the Research Questions

Analysis of data to answer the research questions are presented in Table 5 to 8 as follows:

Research Question One: What is the effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

To answer research question one, the scores obtained from respondents were analysed, using mean and standard deviation as shown as follows:

Table 5: Mean and Standard Deviation of Effect of Guided-Discovery Teaching Method on Students' Academic Performance in Financial Accounting in Colleges of Education, North Central, Nigeria.

Variables	N	X	S.D	Mean Diff
Pre-test	280	29.06	19.17	
				20.21
Post-test	280	49.27	20.98	

Source: Field Study, 2018

Based on the data presented in table 5, they were 280 Business Education students of intact pre-test class and of the same number in post-test class. In the pre-test results, the mean performance of the students was 29.06 while the standard deviation (SD) was 19.17. On the other hand, the mean performance of the post-test results was 49.27 while standard deviation (SD) was 20.98. The mean scores of 49.27 in the post test results as against the mean scores of 29.06 in the pre-test results depicted that the students performed better in post-test than the pre-test with different mean scores of 20.21.

Research Question Two: What is the effect of problem-solving teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

To answer research question two, the scores obtained from respondents were analysed, using mean and standard deviation as shown as follows:

Table 6: Mean and Standard Deviation of Effect of Problem-Solving Teaching Method on Students' Academic Performance in Financial Accounting in Colleges of Education, North Central, Nigeria

Variables	N	X	S.D	Mean Diff
Pre-test	292	31.71	16.89	
				24.41
Post-test	292	56.12	18.22	

Source: Field Study, 2018

Based on the data presented in table 6, they were 292 Business Education students of intact pre-test class and of the same number in post-test classes. In the pre-test results, the mean performance of the students was 31.71 while the standard deviation (SD) was 16.89. On the other hand, the mean performance of the post-test results was 56.12 while standard deviation (SD) was 18.22.

The mean scores of 56.12 in the post test results as against the mean scores of 31.71 in the pre-test results depicted that the students performed better in post-test than the pre-test with different mean scores of 24.41.

Research Question Three: What is the effect of lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

To answer research question three, the scores obtained from respondents were analysed, using mean and standard deviation as shown as follows:

Table 7: Mean and Standard Deviation of Effect of Lecture Method on Students' Academic Performance in Financial Accounting in Colleges of Education, North Central, Nigeria

Variables	N	X	S.D	Mean Diff
Pre-test	217	27.14	20.54	
				21.63
Post-test	217	48.77	20.16	

Source: Field Study, 2018

Based on the data presented in table 7, they were 192 Business Education students of intact pre-test class and of the same number in post-test classes. In the pre-test results, the mean performance of the students was 27.14 while the standard deviation (SD) was 20.54. On the other hand, the mean performance of the post-test results was 48.77 while the standard deviation (SD) was 20.16.

The mean scores of 48.77 in the post test results as against the mean scores of 27.14 in the pre-test results depicted that the students performed better in post-test than the pre-test with different mean scores of 21.63.

Research Question Four: What are the effects of guided-discovery, problem-solving and lecture teaching on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

To answer research question four, the scores obtained from respondents were analysed, using mean and standard deviation as shown as follows:

Table 8: Mean and Standard Deviation of Effects of Guided-Discovery, Problem-Solving and Lecture Teaching on Students' Academic Performance in Financial Accounting in Colleges of Education, North Central, Nigeria

Variables	N	X	S.D	Mean Diff
Pre-test$_1$	280	29.06	19.17	
				20.21
Post-test$_1$	280	49.27	20.98	
Pre-test$_2$	292	31.71	16.89	
				24.41
Post-test$_2$	292	56.12	18.22	
Pre-test$_3$	217	27.14	20.54	
				21.63
Post-test$_3$	217	48.77	20.16	

Source: Field Study, 2018

Based on the data presented in table 8, they were 280 Education students of intact pre-test class and of the same number in post-test class. (Experimental group 1) In the pre-test results, the mean performance of the students was 29.06 while the standard deviation (SD) was 19.17. On the other hand, the mean performance of the post-test results was 49.27 while standard deviation (SD) was 20.98. The mean scores of 49.27 in the post test results as against the mean scores of 29.06 in the pre-test results depicted that the students performed better in post-test than the pre-test with difference mean scores of 20.21. They were 292 Business Education students of intact pre-test class and of the same number in post-test class. (Experimental group 2) In the pre-test results, the mean performance of the students was 31.71 while the standard deviation (SD) was 16.89. On the other hand, the mean performance of the post-test results was 56.12 while standard deviation (SD) was 18.22.

The mean scores of 56.12 in the post test results as against the mean scores of 31.71 in the pre-test results depicted that the students performed better in post-test than the pre-test with difference mean scores of 24.41. They were 217 Business Education students of intact pre-test class and of the same number in post-test classes. In the pre-test results, the mean performance of the students was 27.14 while the standard deviation (SD) was 20.54. On the

other hand, the mean performance of the post-test results was 48.77 while standard deviation (SD) was 20.16. The mean scores of 48.77 in the post test results as against the mean scores of 27.14 in the pre-test results depicted that the students performed better in post-test than the pre-test with different mean scores of 21.63.

Test of Hypotheses

The null hypotheses of the study were tested using t-test and ANOVA to determine the significant effects of guided-discovery, problem-solving and lecture teaching on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The null hypotheses were tested at 0.05 level of significance. The summary of the test of research hypotheses are presented in Tables 9 to 12:

H_{01}: There is no significant effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria

The test of this null hypothesis can be seen as summarised in Table 9 as follows:

Table 9: Summary of Paired Sample t-test of the Effect of Guided Discovery Teaching Method on Students' Academic Performance in Financial Accounting

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Pretest	280	29.06	19.2	-37.554	279	0.000	Rejected
Posttest	280	49.27	21.0				

Source: Field Survey, 2018 P<0.05

The data presented in Table 9 shows paired sample t-test result of the effect of guided discovery method of teaching on students' academic performance with a sample of 280 students. The students taught financial accounting with guided discovery method had a mean score of 29.06 and standard deviation of 19.2 in the pre-test ($\bar{x}$ = 29.06; SD = 19.2). In the post-test, the students had a mean score of 49.27 and standard deviation of 21.0 ($\bar{x}$ = 49.27;

SD = 21.0). The low standard deviation values in both the pre-test and post-test of students' scores indicates that the scores are clustered around the mean. The table reveals that guided-discovery teaching method has significant effect on students' academic performance in financial accounting (t_{294} = -37.55, P<0.05). Therefore, the null hypothesis that states that there is no significant effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria was rejected. These results show that students taught financial accounting with guided-discovery teaching method had higher mean score in the post-test as against the pre-test ($\bar{X}_{post\text{-}test}$ = 49.27; $\bar{X}_{pretest}$ = 29.06;).

Ho_2: There is no significant effect of problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria

The test of this null hypothesis can be seen as summarised in Table 10 as follows:

Table 10: Summary of Paired Sample t-test of the Effect of Problem-Solving Teaching Method on Students' Academic Performance in Financial Accounting

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Pretest	292	31.71	16.9	-47.651	291	0.000	Rejected
Posttest	292	56.12	18.2				

Source: Field Survey, 2018 P<0.05

The data presented in table 10 shows paired sample t-test result of the effect of problem solving method of teaching on students' academic performance with a sample of 292 students. The students taught Financial Accounting with problem solving method had a mean score of 31.71 and standard deviation of 16.9 in the pre-test ($\bar{X}$ = 31.71; SD = 16.9). In the post-test, the students had a mean score of 56.12 and standard deviation of 18.2 ($\bar{X}$ = 56.12; SD = 18.2). The low standard deviation values in both the pre-test and post-test of students'

scores indicates that the scores are clustered around the mean. The table reveals that problem-solving teaching method has significant effect on students' academic performance in Financial Accounting (t_{271} = -47.65, P<0.05). Therefore, the null hypothesis that states that there is no significant effect of problem-solving teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria was rejected. These results show that students taught financial accounting with problem solving-teaching method had higher mean score in the post-test as against the pre-test ($\bar{X}_{post\text{-}test}$ = 56.12; $\bar{X}_{pretest}$ = 31.71;).

$H0_3$: There is no significant effect of lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria

The test of this null hypothesis can be seen as summarised in Table 11 as follows:

Table 11: Summary of Paired Sample t-test of the Effect of Lecture Method Teaching Method on Students' Academic Performance in Financial Accounting

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Pretest	217	27.14	20.5	-27.826	216	0.000	Rejected
Posttest	217	48.77	20.2				

Source: Field survey, 2018 P<0.05

The data presented in table 11 shows paired sample t-test result of the effect of lecture method of teaching on students' academic performance with a sample of 217 students. The students taught Financial Accounting with lecture method had a mean score of 27.14 and standard deviation of 20.5 in the pre-test ($\bar{X}$ = 27.14; SD = 20.5). In the post-test, the students had a mean score of 48.77 and standard deviation of 20.2 ($\bar{X}$ = 48.77; SD = 20.2). The low standard deviation values in both the pre-test and post-test of students' scores indicates that the scores are clustered around the mean. The table reveals that lecture teaching method has significant effect on students' academic performance in Financial Accounting (t_{191} = -27.83,

P<0.05). Therefore, the null hypothesis that states that there is no significant effect of lecture teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria was rejected. These results show that students taught Financial Accounting with lecture teaching method had higher mean score in the post-test as against the pre-test ($\bar{X}_{post\text{-}test} = 48.77$; $\bar{X}_{pretest} = 27.14$;).

$H0_4$: There are no significant effects of guided-discovery, problem-solving and lecturing teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria

The test of this null hypothesis can be seen as summarised in Table 12 as follows:

Table 12: One-way Analysis of Variance Result of the Effects of Guided-Discovery, Problem-Solving and Lecturing Teaching Methods on Students' Academic Performance in Financial Accounting

Group	N	Mean	SD	F-cal	Df	p-value	Decision
Guided-discovery	280	49.27	20.98	10.82	2,711	0.000	Rejected
Problem-solving	292	56.12	18.22				
Lecture Method	217	48.77	20.16				

Source: Field Survey, 2018

The result of analysis of variance as presented in Table 12 revealed that the calculated value of F was 10.82 ($F_{2,711} = 10.82$) and the observed probability value was 0.000 which is less than the fixed probability value of 0.05 (P<0.05). This indicates that the null hypothesis that stated that there is no significant effect of guided discovery, problem solving and lecturing teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria was rejected. This implied that guided-discovery; problem-solving and lecturing teaching methods had significant effects on the academic performance of students in Financial Accounting.

Table 13: Scheffe Post Hoc Pairwise Comparison Between Guided-Discovery, Problem-Solving and Lecturing Teaching Methods on Students' Academic Performance in Financial Accounting

(I) Group	(J) Group	Mean Difference (I-J)	Sig.
Guided discovery method	Problem solving method	-6.84932*	.000
	Lecture method	.50117	.966
Problem solving method	Guided discovery method	6.84932*	.000
	Lecture method	7.35049*	.000
Lecture method	Guided discovery method	-.50117	.966
	Problem solving method	-7.35049*	.000

Source: Field Survey, 2018

Analysis of data in table 13 shows the Scheffe Post Hoc Pairwise Comparison, which compare the methods, two at a time to see where the effects between the groups occur. The table revealed that between guided-discovery and problem-solving method of teaching, problem-solving has significant effect on the academic performance of students in Financial Accounting with a mean difference of 6.8 and P-value of 0.000 which is less than the fixed probability value of 0.05 ($P<0.05$). Same way, comparing problem-solving and guided-discovery method, the table shows a mean difference of 6.8 and P-value of 0.000 which is less than the fixed probability value of 0.05 ($P<0.05$). This means that mean performance of students in problem-solving group was higher than guided-discovery group. The table also revealed that, comparing lecture method and guided-discovery method, no significant effects exist as students' mean performance are almost the same as the mean difference was 0.5 and P-value of 0.966 which is greater than the fixed probability value of 0.05 ($P>0.05$).

With the result in Table 13, it is clear that problem-solving teaching method is effective in improving students' academic performance in Financial Accounting. The

Problem-solving group did better than the Guided-discovery group and Lecture method group.

Summary of Major Findings

Based on the analyses of data, the following findings emerged;

1. The result of data analysed to answer research question one in table 5 revealed that guided-discovery teaching method had effect on students' academic performance in Financial Accounting. Pre-test mean score was 29.06 and post-test mean score was 49.27, this gave mean difference scores of 20.21. Hypothesis one tested in table 9 revealed that guided-discovery teaching method had significant positive effect on students' academic performance in Financial Accounting (p=0.000).
2. The result of data analysed to answer research question two in table 6 revealed that problem-solving teaching method had effect on students' academic performance in Financial Accounting. Pre-test mean score was 31.71 and post-test mean score was 56.12, this gave mean difference scores of 24.41. Hypothesis two tested in table 10 revealed that problem-solving teaching method had significant positive effect on students' academic performance in Financial Accounting (p=0.000).
3. The result of data analysed to answer research question three in table 7 revealed that lecture method had effect on students' academic performance in Financial Accounting. Pre-test mean score was 27.14 and post-test mean score was 48.77, this gave mean difference scores of 21.63. Hypothesis three tested in table 11 revealed that lecture method had significant effect on students' academic performance in Financial Accounting (p=0.000).
4. There were differences between the performances of students taught Financial Accounting using guided-discovery, problem-solving and lecture teaching methods. With the result in Table 13, it is clear that Problem-solving teaching method is

effective in improving students' academic performance in Financial Accounting. The Problem-solving group did better than the Guided-discovery group and Lecture method group (p=0.000).

Discussion of Findings

Research question one sought to establish whether guided-discovery teaching method has effect on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The null hypothesis (Ho_1) in table 9 had results that showed that there is significant effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria, indicating that the hypothesis was rejected. The data collected showed that guided-discovery teaching method has significant effect on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. This was due to the fact that guided-discovery teaching method has effect on academic performance of Business Education students taught Financial Accounting; this is similar to the findings of Garuma (2012) who found guided-discovery teaching method to be more effective in improving students achievement followed by demonstration teaching method while the traditional method is the least effective in teaching secondary school students. This finding is also in line with Luntungan (2012) who reported that guided-discovery teaching method has a significant effect on students' academic performance. Furthermore, Olarinoye (2015) found out that Guided discovery method significantly affected students' performance in accounting more than cooperative method. Therefore, the researcher is of strong opinion that guided-discovery has positive effects on business education students' performance in Financial Accounting at Colleges of Education.

Research question two was raised to determine the effect of problem-solving teaching method on students' academic performance in Financial Accounting in Colleges of

Education, North Central, Nigeria. The null hypothesis (Ho_2) had the results that showed that there is significant effect of problem-solving teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. This indicated that the hypothesis was rejected. The finding also showed that there was a significant effect problem-solving teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. This is in agreement with the findings of Maikudi (2015) that there was significant difference between the students taught using problem- solving, guided-discovery instructional strategy and those taught with lecture method. This is also supported by Tsoho (2011); Mohammed (2012); Khadala (2014) who found out that student centered strategies are effective in students' performance in geometry.

Research question three was raised to determine the effect of lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The null hypothesis (Ho_3) had the results that showed that there is significant effect of lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. This indicated that the hypothesis was rejected. The data analysed showed that there is an average significant effect lecture method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. This finding agrees with Toby in Onaolapo (2015) who said that individual or group mean achievement score should serve as a basis for making judgment whether a group or individual has achieved a pre-determined, stated objective or not. The author further stated that; mean achievement score should be regarded as a reliable performance indicator of the treatment (instructional method). Also, Alberecht and Sack in Onaolapo (2015) observed that lecture method will thwart student's ability to learn real world skills, but the combination of traditional teaching method and student-centered

learning approach will develop leadership skills and team building.

Research question four was raised to determine the effects of guided-discovery, problem-solving and lecture teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. The null hypothesis (Ho_4) had the results that showed that there are significant effects of guided-discovery, problem-solving and lecture teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria this indicated that the hypothesis was rejected. The data analysed showed that there is a significant effect of guided-discovery, problem-solving and lecture teaching methods on students' academic performance in Financial Accounting in Colleges of Education in North Central Geo-Political Zone of Nigeria.

The reason for the difference in the achievement of the experimental groups and the control group is not far fetched from the fact that students were more likely to interact in an active way with the problem solving and guided discovery strategies. Takawira and Matthias (2010) maintained that lecture method of teaching alone cannot fully develop students' ability to grasp Basic Science concepts. Also Mwelese and Nwajala (2014) maintained that the lecture method does not enhance students' participation, team work and peer interactions and so, the performance of students taught through the lecture method would certainly be discouraging.

The use of the either problem-solving or guided-discovery strategy does not show any significance between pre-test and post-test in either of the groups. This implies that the problem solving strategy is as effective as the guided-discovery strategy in the achievement of both groups. This is supported by the findings of Brown and Abell (2007); Clark (2009); Akinyemi and Folashade (2010); who investigated the use of problem-solving and guided-discovery and maintained that each of this strategy is capable of producing similar results.

A comparison of mean scores of students exposed to problem-solving and those taught using guided-discovery showed no significant difference. This finding is in agreement with works of Case et al, (2013); Rule and Hillgan (2006), Kurumeh and Achor (2008) who maintained that hands on and minds on activities have positive effect on improving students' academic performance. Also the finding is consistent with that of Etukudo, (2010) and Usman (2011). The non-significant difference found between EXP 1 AND EXP 2 groups implies that problem-solving strategies is as effective as guided-discovery strategy in teaching Financial Accounting.

Different teaching methods draw attention to different learning outcomes Samuelson (2010). According to Samuelson (2010) students who worked in problem-solving classes and guided-discovery classes were exposed to a higher level of reasoning and they accepted this reasoning as valid. Contrarily, in the control group where the lecture method was employed; students generally interacted with the teacher which led to a lower achievement.

Overall, this study established that:

1. Guided-discovery teaching method had significant positive effect on students' academic performance in Financial Accounting (p=0.000).
2. Problem-solving teaching method had significant positive effect on students' academic performance in Financial Accounting (p=0.000).
3. Lecture method had significant effect on students' academic performance in Financial Accounting (p=0.000).
4. Problem-solving teaching method is effective in improving students' academic performance in Financial Accounting. The Problem-solving group did better than the Guided-discovery group and Lecture method group (p=0.000).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

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

Summary

Conclusion

Recommendations

Suggestions for Further Study

Summary

The research work examined the effects of guided-discovery and problem-solving teaching methods on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria. In order to achieve purpose of the study four specific purposes were raised which included, to determine the effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria, in line with the specific purposes, four research questions were formulated which included, what is the effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria?

Four null hypotheses were posited among which include, there that was no significant effect of guided-discovery teaching method on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria and tested at 0.05 level of significance. Related literature and empirical studies were reviewed. The researcher adopted quasi-experimental research design. The population of the study was 8,923 Business Education students in Colleges of Education, North Central, Nigeria; purposive sampling technique was used to select 789 NCE II students as respondents in the study. A researcher self-developed Financial Accounting Achievement Test (FAAT) were used in collecting data

for the study. The instruments were face and content validated by experts. The data collection period lasted for six weeks. The data were analysed using mean to answer the research questions and standard deviation to determine the closeness or otherwise of the responses from the mean, while t-test statistic was used to test the null hypotheses one, two and three and null hypothesis four was tested using ANOVA and Scheffe Post Hoc Pairwise Comparison test, all the null hypotheses were tested at 0.05 levels of significance. Based on the analyses of data, the following findings emerged;

1. The result of data analysed to answer research question one in table 5 revealed that guided-discovery teaching method had effect on students' academic performance in Financial Accounting. Pre-test mean score was 29.06 and post-test mean score was 49.27, this gave mean difference scores of 20.21. Hypothesis one tested in table 9 revealed that guided-discovery teaching method had significant positive effect on students' academic performance in Financial Accounting (p=0.000).
2. The result of data analysed to answer research question two in table 6 revealed that problem-solving teaching method had effect on students' academic performance in Financial Accounting. Pre-test mean score was 31.71 and post-test mean score was 56.12, this gave mean difference scores of 24.41. Hypothesis two tested in table 10 revealed that problem-solving teaching method had significant positive effect on students' academic performance in Financial Accounting (p=0.000).
3. The result of data analysed to answer research question three in table 7 revealed that lecture method had effect on students' academic performance in Financial Accounting. Pre-test mean score was 27.14 and post-test mean score was 48.77, this gave mean difference scores of 21.63. Hypothesis three tested in table 11 revealed that lecture method had significant effect on students' academic performance in Financial Accounting (p=0.000).

4. There were differences between the performances of students taught Financial Accounting using guided-discovery, problem-solving and lecture teaching methods. With the result in Table 13, it is clear that Problem-solving teaching method is effective in improving students' academic performance in Financial Accounting. The Problem-solving group did better than the Guided-discovery group and Lecture method group (p=0.000).

Conclusions

After statistical analysis of the data, the researcher arrived at the following conclusions. It was concluded that: Different teaching methods draw attention to different learning outcomes. Students who work in problem- solving classes and guided-discovery classes were exposed to a higher level of reasoning and they accepted this reasoning as valid. Contrarily, in the control group where lecture method was employed; students generally interacted with the teacher which led to a lower achievement.

It was therefore, concluded that guided-discovery, problem-solving and lecture teaching methods have a significant positive effect on students' academic performance in Financial Accounting in Colleges of Education, North Central, Nigeria.

Recommendations

Based on the findings obtained in the study and conclusion drawn, the researcher makes the following recommendations:

1. The usage of guided-discovery teaching method by lecturers of Financial Accounting most especially at Colleges of Education as a matter of policy should be enforced as much as possible in the nearest future.
2. Lecturers of Financial Accounting at all levels in Colleges of Education should embrace the application of problem-solving teaching method so that students' failure rate in Financial Accounting examinations would be reduced to the bearest minimum.

3. Lecture method of teaching is as old as teaching itself, the researcher desires that there should be a shift to the next level of teaching method by mixing other instructional strategies with lecture method to bring about better academic performance among Business Education students especially in Financial Accounting.
4. Lecturers should be advised to integrate different teaching methods as much as possible whenever such will be easy to shift from one method of teaching to another method of teaching in the teaching and learning of Financial Accounting.

Suggestions for Further Studies

The researcher suggested that further studies in the study can be carried along these lines thus:

1. Effects of Guided-Discovery and Problem-Solving Teaching Methods on Students' Academic Performance in Financial Accounting in Colleges of Education, North East, Nigeria.
2. Effects of Guided-Discovery and Problem-Solving Teaching Methods on Students' Academic Performance in Financial Accounting in Secondary Schools in Kano State. Nigeria.
3. Effects of Guided-Discovery, Problem-Solving Teaching Methods and Gender on Students' Academic Performance in Financial Accounting in Colleges of Education in North West Geo-Political Zone of Nigeria.

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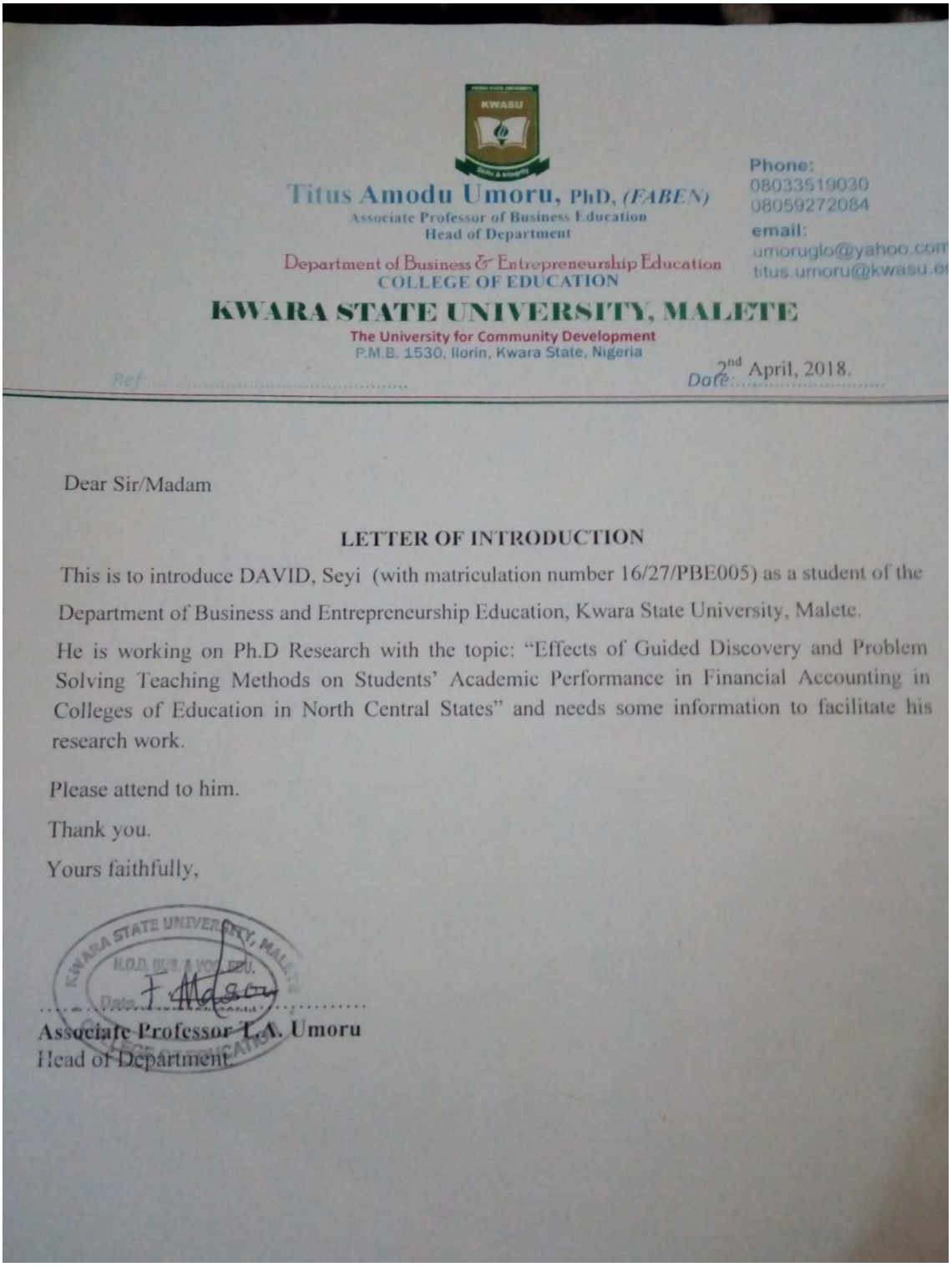
APPENDIX A

INTRODUCTION LETTER



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KWARA STATE UNIVERSITY, MALETE
The University for Community Development
P.M.B. 1530, Ilorin, Kwara State, Nigeria

Ref:..... Date: 2nd April, 2018.

Dear Sir/Madam

LETTER OF INTRODUCTION

This is to introduce DAVID, Seyi (with matriculation number 16/27/PBE005) as a student of the Department of Business and Entrepreneurship Education, Kwara State University, Malete.

He is working on Ph.D Research with the topic: "Effects of Guided Discovery and Problem Solving Teaching Methods on Students' Academic Performance in Financial Accounting in Colleges of Education in North Central States" and needs some information to facilitate his research work.

Please attend to him.

Thank you.

Yours faithfully,

KWARA STATE UNIVERSITY, MALETE
H.O.D. BUS. & VOC. EDU.
Date.....

.....
Associate Professor T.A. Umoru
Head of Department

APPENDIX B

LETTER OF VALIDATION OF RESEARCH INSTRUMENT

Department of Business and Entrepreneurship Education,
College of Education
Kwara State University, Malete
15th July, 2018

David Seyi,
Department of Business and
Entrepreneurship Education,
College of Education.
Kwara State University, Malete

Dear Mr. Seyi

COMFIRMATION OF FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

Your letter on the above mentioned subject matter refers.

I, Dr Joshua S. Mammam ..... of the Department of Business and Entrepreneurship Education, College of Education, Kwara State University, Malete, hereby certified that I carried out face and content validation of the attached research instrument on title.

Thanks

Yours faithfully,

Research and Instrument Validator

LETTER OF VALIDATION OF RESEARCH INSTRUMENT

Department of Business and Entrepreneurship Education,
College of Education
Kwara State University, Malete
15th July, 2018

Department of Business and
Entrepreneurship Education,
College of Education,
Kwara State University, Malete
Dear Mr. Seyi

COMFIRMATION OF FACE AND CONTENT VALIDATION OF RESEARCH INSTRUMENT

Your letter on the above mentioned subject matter refers. I Dr S.O. Afolabi of the Department of Business and Entrepreneurship Education, College of Education, Kwara State University, Malete, hereby certified that I carried out face and content validation of the attached research instrument on title.

Thanks

Yours faithfully,

Research and Instrument Validator

APPENDIX C

Pre-test

INSTRUCTION: Answer all question in Sections A and B

Section A

1. Gender

Male [ ]

Female [ ]

2. Age (in years)

15 – 20 [ ]

21 – 30 [ ]

31 – 40 [ ]

3. Registration/Admission/Matric Number……

SECTION B Objective Questions

Instruction: Indicate the answer by ticking the correct option

1. After recording the business of a sole trader from the original documents and extraction of the trial balance then comes the preparation of……..account as the first step.

(a) appropriation

(b) profit loss

(c) trading

(d) company

2. A trial balance is……..

(a) an attempt to balance off the account

(b) balance sheet balances

(c) the credit balances of the account

(d) list of all balances extracted from the ledger

3. In the balance sheet, a bank overdraft is a/an……

(a) current liability

(b) current asset

(c) fixed asset

(d) long term liability

4. Goods sent back to the supplier as a result of poor quality is referred to as

(a) returns

(b) returns forward

(c) returns inwards

(d) returns outward.

5. The term depreciation means the……. of an asset

(a) life span

(b) reduction in value

(c) scrap value

(d) increase in cost

6. Carriage on sales is charged to the…….

(a) credit side of the profit and loss account

(b) credit side of trading account

(c) debit side of trading account

(d) debit side of profit and loss account

7. Double entry principle states that …….

(a) for every credit entry, debit entry must be recorded twice

(b) each transaction with a debit entry must have a corresponding credit entry

(c) for every debit entry, credit entry must be recorded twice

(d) each debit entry must have a corresponding debit entry in another account

8. Goods sold on credit are first recorded in the…….

(a) sales day book

(b) sales ledger

(c) purchase day book

(d) purchase ledger

9. Which of the following entries is correct when goods are bought on credit……..

(a) the sales account is debited and purchase account credited

(b) the purchase account is debited and the debtors account credited

(c) the purchase account is debited and the customer‘s account credited

(d) the debtor‘s account is debited and purchase account credited

10. Which of the following is not a liability

(a) accrued salaries

(b) creditors

(c) prepayment

(d) short term loan

11. A trial balance is not regarded as an account because it……..

(a) is a summary of balances in the ledger at a given time

(b) does not have up to eight columns as a ledger

(c) does not have debit and credit entries

(d) does not follow the rule of double entry

12. Which of the following is correct of cost of sales……..

(a) opening stock + purchases - returns inwards

(b) opening stock + purchases – closing stock

(c) opening stock – purchases - closing stock

(d) opening stock+ sales + closing stock

13. Carriage inwards are incurred on goods……..……

(a) in process

(b) purchased

(c) sold

(d) returned

14. Which of the following defines the function of book-keeping……

(a) it breaks every business transaction into debit and credit

(b) it classifies business transactions into appropriate books of account

(c) it groups cash and credit transactions together

(d) it tests the accuracy of double entry principles in the ledger

15. In a trading, profit and loss account, carriage inwards is posted to……..

(a) trading account

(b) purchase account

(c) profit and loss account

(d) balance sheet

16. Purchase in accounting refers to goods bought for

(a) decorating offices

(b) repairs

(c) resale

(d) permanent use

17. Opening stock + purchases + carriage inward equals to

(a) cost of goods sold

(b) prime cost

(c) total sales

(d) cost of goods available for sale

18. Discount allowed is a charge to…….

(a) balance sheet

(b) trading account

(c) current account

(d) profit and loss account

19. Carriage outwards is accounting term for amounts spent on

(a) goods for production

(b) goods sold

(c) excess stock

(d) goods returned

20. The accounting equation states that……..

(a) C = A + L

(b) L = A + C

(c) A =C + L

(d) A = L – C

21. The bank column in the cash book shows a credit balance of #1,000. This means

(a) A total payment of #1,000

(b) A gross receipt of #1,000

(c) A left over of #1,000 in the bank

(d) An overdraft of #1,000

22. Which of the following belong to nominal ledger?

(a) Creditors account

(b) Debtors Account

(c) Salaries Account

(d) Fixtures Account

23. The number of times a firm sells and replenishes its average stock in a given period is known as

(a) Rate of turnover

(b) Total average stock

(c) Cost of sales

(d) Stock turn

24. Which of these documents will be used to record entry on the credit side of bank column cash book

(a) Cheque counterfoil

(b) Duplicate copy of a bank teller

(c) A cheque leaflet

(d) A bank pass book

25. The sale day book will shows goods sold

(a) For cash and credit

(b) For cash

(c) On credit

(d) To wholesalers

26. When a proprietor withdraws cash from bank for office use the entries would be

(a) credit-Cash Account, Debit-Bank Account

(b) Debit-Cash Account, Credit-Bank Account

(c) Debit-Office Account, Credit-Bank Account

(d) Debit-Drawing Account, Credit- Bank Account

27. A fund established for the payment of minor expenses is

(a) Cash discount

(b) Cash flow

(c) Accumulated fund

(d) Petty cash

28. Purchases in Accounting refer to goods bought for

(a) Resale

(b) Repair

(c) Decorating office

(d) Owners' use

29. The concept of double entry book-keeping stated that

(a) If you receive goods on credit the seller becomes your credits

(b) For every debt entry, there must be a corresponding credit entry

(c) One party receives and another party gives value

(d) Purchases and sales are stated separately

30. Impersonal Real Accounts include (i) expenditure on telephone (ii) Motor Vehicles (iii) expenses on telephone (iv) Land and Building

(a) ii and iv

(b) I, ii and iii

(c) ii, iii and iv

(d) I and iv

31. When buyer returns damage goods to the seller the buyer receives a

(a) Proforma invoice

(b) Credit note

(c) Debit note

(d) Goods return note

32. Liquid capital is a business means

(a) All current assets of a given balance sheet

(b) Excess of current assets over current liabilities

(c) All assets are convertible into cash

(d) The portion of that asset that could be turned into liquid

33. A subsidiary record is a book

(a) Found in the ledger

(b) Of subsidiary entries

(c) Of final entry

(d) Of original entry.

34. When wrong amount is entered on the debit and credit sides this can be refer to as error of

(a) Original entry

(b) Complete reversal

(c) undercast

(d) Compensating

35. Accounts can be classified into

(a) 3

(b) 4

(c) 1

(d) 2

36. The amount given to petty cahier is called

(a) Cash

(b) Float

(c) Money

(d) Credit

37. The process of recording classifying, measuring, interpreting, communicating financial data of an organization known as

(a) Book-Keeping

(b) Costing

(c) Accounting

(d) Accountant

38. When wrong classes of accounts are mistakenly posted this called error of

(a) Omission

(b) Principle

(c) Compensating

(d) Cash book

39. Ledger can be define as

(a) The final destination of all transactions in the subsidiary book

(b) Entry in which recording are made in chronological order

(c) It is used for opening entries

(d) Correction of errors.

40. Which account used to record the difference on trial balance temporarily until the errors are detected and corrected

(a) Error's Account

(b) Assets Account

(c) Owners Account

(d) Suspense Account.

APPENDIX D

Pre-Test Marking Scheme

1. C
2. D
3. A
4. D
5. B
6. D
7. B
8. A
9. C
10. C
11. A
12. B
13. B
14. B
15. B
16. C
17. D
18. D
19. B
20. C
21. D
22. C
23. A
24. B
25. C
26. B
27 D
28. A
29. B
30. A
31. C
32. B
33. D
34 B
35. D
36. B
37. C
38. B
39. A
40. D

2mark x 40 options = 80 marks

APPENDIX E

Post-Test Questions

INSTRUCTION: Answer all question in Sections A and B

Section A

1. Gender

Male [ ]

Female [ ]

2. Age (in years)

15 – 20 [ ]

21 – 30 [ ]

31 – 40 [ ]

3. Registration/Admission/Matric Number……

SECTION B Essay Question

XYZ Nigeria Limited are manufacturers and the following balances were taken extracted from the books of the company for the year ended 31st December, 2017.

Details	**N**
Sundry debtors	12,650
Sundry creditors	9,820
Purchase of raw materials	29,470
Factory lighting and cooling	2,885
Bank balance	71,316
Stocks on 1/1/2017	
Raw materials	5,360
Work in progress	4,972
Finished goods	16, 295
Factory insurance	1,820
Rent	21,600
Cash in hand	3,751
Capital	296,180
Office insurance	550
Sales of finished goods	141,661
Drawings	2,500
Returns on raw materials	1,373
Bad debts	729

Stationery	1,586
Plant and machinery	225,066
Returns on finished goods	1,493
Provision for bad debts	308
Factory wages	13,582
Stocks on 31/12/2017	
Raw materials	8,619
Work in progress	3,664
Finished goods	11,570
Furniture	38,664
Selling and admin expenses	2,174
Office electricity	1,569
Bank loan	75,000
Office salaries	9,629
Delivery vans	56,925

The following Additional Information is given:

(i) Interest is due on the bank loan at 5%

(ii) 1/3 of the rent is to be allocated to the factory

(iii) Provision for bad debts is to be 2% of the debtors

(iv) Depreciation is to be written off the plant and machinery at 2.5% and at 5% on delivery vans and furniture

You are required to:

a. Prepare manufacturing, Trading, Profit and Loss Account for the year ended 31st December, 2017.

b. Balance sheet as at 31st December, 2017.

APPENDIX F
Solution of Post-Test

XYZ Nig Ltd
Manufacturing, Trading, Profit and Loss account for the year ended 31st December, 2017

	N	N		N	N
Opening stock of raw materials		5,360	Cost of production c/d		57,260
Add purchase of raw materials	29,470				
Less returns of raw materials	1,373	28,097			
Cost of raw materials available for use		33,457			
Less closing stock of raw materials		8,619			
Cost of raw materials consumed		24,838			
Factory wages		13,582			
Prime cost		38,420			
Add factory overheads					
Factory lighting and cooling	2,885				
Factory insurance	1,820				
Factory rent (wk 1)	7,200				
Depreciation of plant and machinery (wk 4)	5,627	17,532			
		55,952			
Add opening stock work in progress		4,972			
		60,924			
Less closing stock work in progress		3,664			
Add cost of production		**57,260**			**57,260**
Opening stock of finished goods		16,295	Sales	141,661	
Add cost of production		57,260	Less returns inwards	1,493	140,168
Cost of goods available for sale		73,555			
Less closing stock of finished goods		11,750			
Cost of goods sold		61,985			
Gross profit c/d		78,183			
		140,168			**140,168**
Expenses					
Selling and admin expenses		2,174	Gross profit b/d		78,183
Office rent (wk 1)		14,400	Reduction in provision for bad debts (wk 3)		55

Bad debts	729		78,238
Stationery	1,586		
Office stationery	1,569		
Interest on loan (wk 2)	3,750		
Office salaries	9,629		
Office insurance	550		
Depreciation:			
Delivery vans (wk 5)	2,846		
Furniture (wk 6)	1,921		
Net profit	39,084		
	78,238		**78,238**

Workings

1. Rent 21,600
   Factory (1/3 x 21,600) 7,200
   Trading account 14,400

2. Interest on loan

   = 5% x 75,000 = 3,750

3. Provision for bad debts

   = 2% x 12,650 = 253

   Old provision 308

   Reduction to P & L 55

4. Depreciation

   Plant and machinery

   = 2.5% x 225,066

   = 5,627

5a. Delivery van

   = 5% x 56,925

   = 2,846

b. Furniture = 5% x 38,420

   = 1,921

XYZ Nig Ltd

Balance Sheet as at 31st December, 2017

	N	N		N	N
Capital		296,180	**Fixed Assets**		
Add net profit		39,084	Plant & Machinery	225,066	
		335,264	Less depreciation	5,627	219,439
Less drawings		2,500	Delivery van	56,925	
		332,764	Less depreciation	2,846	54,079
			Furniture	38,420	
			Less depreciation	1,921	36,499
Current Liabilities					310,017
Bank loan	75,000		**Current Assets**		
Accrued int on loan	3,750		Stock of raw materials	8,619	
Creditors	9,820	88,570	Stock of work in progress	3,664	
			Stock of finished goods	11,570	
			Bank balance	71,316	
			Cash balance	3,751	
			Debtor 12,650		
			Less provi 253	12,379	111,317
		421,334			**421,334**

APPENDIX G

(LESSON PLAN ON GUIDED-DISCOVERY TEACHING METHOD) WEEK 2

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Okenne

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Accounts

Method of Teaching: Guided-Discovery

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

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

a. Explain concept of manufacturing account

b. Explain the purpose of manufacturing account

c. Describe briefly terminologies in manufacturing account

d. Solve a question on manufacturing account with the aid of the format

e. Prepare a manufacturing account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught final account of a sole trader and balance sheet

Introduction: The teacher introduces the lesson by reviewing the knowledge of final account of a sole trader and relates it with the manufacturing account which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	Content	Teacher's Activity	Student's Activity
Step I	Meaning of Manufacturing Account	The teacher defines manufacturing of goods as the transforming of raw materials into finished goods	Students listen and copy notes, into their notebooks
Step II	Purpose of Manufacturing Account	He explains that manufacturing account is prepare to determine the cost of the goods manufactured and to ascertain the amount of any profit on the manufacturing process	Students copy notes.
Step III	Terminologies of Manufacturing Account	He briefly describes the following terminologies thus: - Cost of production: is the total expenditure incurred in the production output. - Prime cost: These are cost than can be traced to a particular production unit - Direct materials: this is the expenditure incurred on raw materials which can be traced to a particular production unit - Direct labour: this refers to the wages of employees who are directly engaged in the production process e.g wages - Direct expenses: these are expenses which have direct identification with production e.g royalties - Factory overheads: these relate to expenditure incurred in running the factory which cannot be traced to a particular production unit e.g indirect wages, factory rent and rates. Others include: work in progress (opening and closing), Stocks of raw materials (Opening and closing).	Students listen and ask questions where necessary.

Step IV	Items under manufacturing account	He distributes a prepared format of manufacturing account to the students	Students observe and ask relevant questions.
Step V	Preparation of Manufacturing Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is manufacturing account? 2. Why do we prepare manufacturing account? 3. Mention five (5) terminologies in manufacturing account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic trading account	Students copy the assignment as given by the teacher.

Format of Manufacturing Account for the year ended 31st December, 2010

	N	N		N	N
Opening stock of raw materials		X	Cost of production b/d		X
Add: Purchases of raw materials	X				
Add: Carriage inward on raw materials	X	X			
		X			
Less: Closing stock of raw materials		X			
Cost of raw materials consumed		X			
Add: direct wages		X			
Royalties		X			
Direct expenses		X			
Prime cost		X			
Factory overhead expenses					
Factory power	X				
Factory rent and rates	X				
Indirect wages	X				
Factory insurance	X				
Depreciation of plant and machinery	X				
Fuel and power	X				
Lubricants	X	X			
		X			
Add: Opening stock of work-in-progress		X			
		X			
Less: Closing stock of work-in-progress		X			
Cost of production c/d		**X**			**X**

(LESSON PLAN ON GUIDED-DISCOVERY TEACHING METHOD) WEEK 3

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Okenne

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Accounts

Sub-Topic: Trading Account

Method of Teaching: Guided-Discovery Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

Behavioural Objectives: At the end of the lesson students should be able to:

a. Define trading account and purpose of preparing trading account

b. Discuss some terminologies of trading account

c. Solve a question on trading account with the aid of format

d. Prepare a trading account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught manufacturing account

Introduction: The teacher introduces the lesson by reviewing the knowledge of manufacturing account and relates it with trading account which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	Content	Teacher's Activity	Student's Activity
Step I	Meaning of Trading Account	The teacher explains the concept of trading as account prepared to show the gross profit or gross loss	Students listen and copy notes, into their notebooks
Step II	Purpose of Trading Account	He teacher gives out the main purpose of trading account as to basically ascertain gross profit or gross loss of the business	Students listen and take notes.
Step III	Terminologies of Trading Account	He briefly describes the following terminologies thus: - Purchases: is the goods bought for resale. It does not include the purchase of fixed assets. - Sales: this is the total of cash and credit sales during the trading period and it does not include sales of fixed assets. - Returns outwards: these are goods returned to the suppliers. It must be deducted from the purchases for the period - Returns inwards: these are goods returned by the customers. It must be deducted from the sales for the period. - Carriage inwards: this is the cost of transporting goods to the company. It is normally added to purchases - Cost of goods available for sale: this is the amount arrived at, after adding the purchases to the opening stock - Cost of goods sold: this is the cost of goods actually sold. - Opening stock: this is the stock of goods available for sale at the beginning of the year. - Closing stock: this is the stock of goods at the end of the trading period. - Gross profit: this is the excess of the sales(less returns) over cost of goods sold.	Students listen and ask questions where necessary.

Step IV	Items under manufacturing account	He distributes a prepared format of trading account to the students	Students observe and ask relevant questions.
Step V	Preparation of Manufacturing Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is trading account? 2. Why do we prepare trading account? 3. Mention five (5) terminologies in trading account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic profit and loss account	Students copy the assignment as given by the teacher.

Format of Trading Account for the year ended 31st December, 2010

	N	**N**		**N**	**N**
Opening stock of finished goods		X	Sales		X
Add: Cost of production		X	Less: Return inwards		X
Cost of goods available for sale		X	Net Sales		X
Less: Closing stock of finished goods		X			
Cost of goods sold		X			
Gross Profit c/d		X			
		X			**X**

(LESSON PLAN ON GUIDED-DISCOVERY TEACHING METHOD) WEEK 4

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Okenne

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Accounts

Sub-Topic: Profit and Loss Account

Method of Teaching: Guided-Discovery Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

Behavioural Objectives: At the end of the lesson students should be able to:

a. Define profit and loss account and purpose of preparing profit and loss account

b. Discuss some terminologies of profit and loss account

c. Solve a question on profit and loss account with the aid of format

d. Prepare a profit and loss account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught trading account in the last lecture

Introduction: The teacher introduces the lesson by reviewing the knowledge of profit and loss account of a sole trader and relates it with profit and loss account of a manufacturing

concern which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	**Content**	**Teacher's Activity**	**Student's Activity**
Step I	Meaning of Profit and loss Account	The teacher defines profit and loss account as the account that to shows the net profit or net loss of an organization. Income are credited and expenses are debited	Students listen and copy notes, into their notebooks
Step II	Purpose of Profit and loss Account	The teacher expatiates on the main purpose of profit and loss account is to ascertain net profit or net loss of the business	Students listen and take notes.
Step III	Terminologies of Profit and loss Account	He briefly describes the following terminologies thus: - Net profit: is total expenses minus gross profit - Carriage outward: this is the cost of transporting goods to the customers. It is called carriage on sales and must be treated as expenses.	Students listen and ask questions where necessary.
Step IV	Items under Profit and loss account	He distributes a prepared format of Profit and loss to the students	Students observe and ask relevant questions.
Step V	Preparation of Profit and loss Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is Profit and loss account? 2. Why do we prepare Profit and loss account? 3. Mention five (5) terminologies in Profit and loss account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic balance sheet	Students copy the assignment as given by the teacher.

Format of Profit and Loss Account for the year ended 31st December, 2010

Expenses	**N**	**N**		**N**	**N**
Bad debts		X	Gross profit b/d		X
Carriage outward		X	Reduction in provision for bad debts		X
Commission on sales		X			X
Salesmen salaries		X			
Stationery		X			
Administrative salaries		X			
Office rent		X			
Office insurance		X			
Office Lighting/electricity		X			
Interest on loan		X			
Depreciation:					
Office machine	X				
Furniture and fitting	X				
Delivery van	X	X			
		X			
Net profit		X			
		X			**X**

(LESSON PLAN ON GUIDED-DISCOVERY TEACHING METHOD) WEEK 5

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Okenne

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Accounts

Sub-Topic: Balance Sheet

Method of Teaching: Guided-Discovery Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

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

a. Define balance sheet and purpose of preparing balance sheet

b. Discuss some terminologies of balance sheet

c. Solve a question on balance sheet with the aid of format

d. Prepare a balance sheet using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught balance sheet of a sole trader in the past

Introduction: The teacher introduces the lesson by reviewing the knowledge of balance sheet of a sole trader and relates it with the balance sheet of a manufacturing firm which is the new

topic

Presentation: The teacher will present his lesson through the following steps:

Steps	**Content**	**Teacher's Activity**	**Student's Activity**
Step I	Meaning of Balance sheet	The teacher defines balance sheet is the statement that shows the financial position of a business concern. It is not an account rather it is a statement.	Students listen and copy notes, into their notebooks
Step II	Purpose of balance sheet	The teacher explains that balance sheet shows the financial position of a business concern.	Students listen and take notes.
Step III	Terminologies of balance sheet	He briefly describes the some terminologies thus: - Fixed assets: these are assets which are permanent in nature and it creates avenue for the business. They can last for a long period of time. E.g land and building, furniture and fittings etc - Current assets: these are assets that can last for a short period of time. E.g stock of goods, cash at bank, cash in hand, prepaid expenses etc. - Liabilities: they are the indebtedness of the business to outsiders. It is the claim on the assets of the company. - Current Liabilities: these are liabilities which are payable within a short period of time, usually a year. E.g creditors, loan, overdraft, expenses accrued. - Capital: this is the owner's interest in the assets of the business.	Students listen and ask questions where necessary.
Step IV	Items under Balance sheet	He distributes a prepared format of balance sheet to the students	Students observe and ask relevant questions.
Step V	Preparation of Balance sheet	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.

Step VI	Evaluation	He asks the following questions orally: 1. What is balance sheet? 2. Why do we prepare Balance sheet? 3. Mention five (5) terminologies in Balance sheet	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the lesson by informing the students that there will be a test in the next class.	

Format of Balance Sheet as at 31st December, 2010

	N	N			N	N
Capital		X	**Fixed Assets**			
Add: Net profit		X	Plant and machinery		X	
		X	Less depreciation		X	X
Less: Drawings		X	Delivery van		X	
		X	Less depreciation		X	X
Current Liabilities			Furniture		X	
Bank loan	X		Less depreciation		X	X
Creditors	X		Land and building			X
Accrued expenses	X	X				X
			Current Assets			
			Closing stock of raw materials		X	
			Closing stock of work in progress		X	
			Closing stock of finished goods		X	
			Bank balance		X	
			Cash balance		X	
			Payment in advancement		X	
			Debtor	X		
			Less Provision	X	X	X
		X				**X**

GUIDED DISCOVERY WORK SHEET

XYZ Nig Ltd
Manufacturing, Trading, Profit and Loss account for the year ended 31st December, 2017

	N	N		N	N
Opening stock of raw materials		5,360	Cost of production c/d		57,260
Add purchase of raw materials	29,470				
Less returns of raw materials	1,373	28,097			
Cost of raw materials available for use		33,457			
Less closing stock of raw materials		8,619			
Cost of raw materials consumed		24,838			
Factory wages		13,582			
Prime cost		38,420			
Add factory overheads					
Factory lighting and cooling	2,885				
Factory insurance	1,820				
Factory rent (wk 1)	7,200				
Depreciation of plant and machinery (wk 4)	5,627	17,532			
		55,952			
Add opening stock work in progress		4,972			
		60,924			
Less closing stock work in progress		3,664			
Add cost of production		**57,260**			**57,260**
Opening stock of finished goods		16,295	Sales	141,661	
Add cost of production		57,260	Less returns inwards	1,493	140,168
Cost of goods available for sale		73,555			
Less closing stock of finished goods		11,750			
Cost of goods sold		61,985			
Gross profit c/d		78,183			
		140,168			**140,168**
Expenses					
Selling and admin expenses		2,174	Gross profit b/d		78,183
Office rent (wk 1)		14,400	Reduction in provision for bad debts (wk 3)		55
Bad debts		729			78,238

Stationery	1,586		
Office stationery	1,569		
Interest on loan (wk 2)	3,750		
Office salaries	9,629		
Office insurance	550		
Depreciation:			
Delivery vans (wk 5)	2,846		
Furniture (wk 6)	1,921		
Net profit	39,084		
	78,238		**78,238**

XYZ Nig Ltd

Balance Sheet as at 31st December, 2017

	N	**N**	**Fixed Assets**	**N**	**N**
Capital		296,180	Plant & Machinery	225,066	
Add net profit		39,084	Less depreciation	5,627	219,439
		335,264	Delivery van	56,925	
Less drawings		2,500	Less depreciation	2,846	54,079
		332,764	Furniture	38,420	
			Less depreciation	1,921	36,499
Current Liabilities					310,017
Bank loan	75,000		**Current Assets**		
Accrued int on loan	3,750		Stock of raw materials	8,619	
Creditors	9,820	88,570	Stock of work in progress	3,664	
			Stock of finished goods	11,570	
			Bank balance	71,316	
			Cash balance	3,751	
			Debtor 12,650		
			Less provi 253	12,379	111,317
		421,334			**421,334**

APPENDIX H

(LESSON PLAN ON PROBLEM SOLVING TEACHING METHOD) WEEK 2

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Kwara State College of Education (T), Lafiagi

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Method of Teaching: Problem Solving Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

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

a. Explain concept of manufacturing account

b. Explain the purpose of manufacturing account

c. Describe briefly terminologies in manufacturing account

d. Solve a question on manufacturing account with the aid of the format

e. Prepare a manufacturing account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Book: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught final account of a sole trader and balance sheet

Introduction: The teacher introduces the lesson by reviewing the knowledge of final account of a sole trader and relates it with the manufacturing account which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	Content	Teacher's Activity	Student's Activity
Step I	Meaning of Manufacturing Account	The teacher defines manufacturing of goods as the transforming of raw materials into finished goods	Students listen and copy notes, into their notebooks
Step II	Purpose of Manufacturing Account	He explains that manufacturing account is prepare to determine the cost of the goods manufactured and to ascertain the amount of any profit on the manufacturing process	Students copy notes.
Step III	Terminologies of Manufacturing Account	He briefly describes the following terminologies thus: - Cost of production: is the total expenditure incurred in the production output. - Prime cost: These are cost than can be traced to a particular production unit - Direct materials: this is the expenditure incurred on raw materials which can be traced to a particular production unit - Direct labour: this refers to the wages of employees who are directly engaged in the production process e.g wages - Direct expenses: these are expenses which have direct identification with production e.g royalties - Factory overheads: these relate to expenditure incurred in running the factory which cannot be traced to a particular production unit e.g indirect wages, factory rent and rates. Others include: work in progress (opening and closing), Stocks of raw materials (Opening and closing).	Students listen and ask questions where necessary.

Step IV	Items under manufacturing account	He distributes a prepared format of manufacturing account to the students	Students observe and ask relevant questions.
Step V	Preparation of Manufacturing Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is manufacturing account? 2. Why do we prepare manufacturing account? 3. Mention five (5) terminologies in manufacturing account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic trading account	Students copy the assignment as given by the teacher.

Format of Manufacturing Account for the year ended 31st December, 2010

	N	N		N	N
Opening stock of raw materials		X	Cost of production b/d		X
Add: Purchases of raw materials	X				
Add: Carriage inward on raw materials	X	X			
		X			
Less: Closing stock of raw materials		X			
Cost of raw materials consumed		X			
Add: direct wages		X			
Royalties		X			
Direct expenses		X			
Prime cost		X			
Factory overhead expenses					
Factory power	X				
Factory rent and rates	X				
Indirect wages	X				
Factory insurance	X				
Depreciation of plant and machinery	X				
Fuel and power	X				
Lubricants	X	X			
		X			
Add: Opening stock of work-in-progress		X			
		X			
Less: Closing stock of work-in-progress		X			
Cost of production c/d		**X**			**X**

(LESSON PLAN ON PROBLEM SOLVING TEACHING METHOD) WEEK 3

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Kwara State College of Education (T), Lafiagi

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Sub-Topic: Trading Account

Method of Teaching: Problem Solving Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

Behavioural Objectives: At the end of the lesson students should be able to:

a. Define trading account and purpose of preparing trading account

b. Discuss some terminologies of trading account

c. Solve a question on trading account with the aid of format

d. Prepare a trading account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught manufacturing account

Introduction: The teacher introduces the lesson by reviewing the knowledge of manufacturing account and relates it with trading account which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	Content	Teacher's Activity	Student's Activity
Step I	Meaning of Trading Account	The teacher explains the concept of trading as account prepared to show the gross profit or gross loss	Students listen and copy notes, into their notebooks
Step II	Purpose of Trading Account	He teacher gives out the main purpose of trading account as to basically ascertain gross profit or gross loss of the business	Students listen and take notes.
Step III	Terminologies of Trading Account	He briefly describes the following terminologies thus: - Purchases: is the goods bought for resale. It does not include the purchase of fixed assets. - Sales: this is the total of cash and credit sales during the trading period and it does not include sales of fixed assets. - Returns outwards: these are goods returned to the suppliers. It must be deducted from the purchases for the period - Returns inwards: these are goods returned by the customers. It must be deducted from the sales for the period. - Carriage inwards: this is the cost of transporting goods to the company. It is normally added to purchases - Cost of goods available for sale: this is the amount arrived at, after adding the purchases to the opening stock - Cost of goods sold: this is the cost of goods actually sold. - Opening stock: this is the stock of goods available for sale at the beginning of the year. - Closing stock: this is the stock of goods at the end of the trading period. - Gross profit: this is the excess of the sales(less returns) over cost of goods sold.	Students listen and ask questions where necessary.

Step IV	Items under manufacturing account	He distributes a prepared format of trading account to the students	Students observe and ask relevant questions.
Step V	Preparation of Manufacturing Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is trading account? 2. Why do we prepare trading account? 3. Mention five (5) terminologies in trading account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic profit and loss account	Students copy the assignment as given by the teacher.

Format of Trading Account for the year ended 31st December, 2010

	N	N		N	N
Opening stock of finished goods		X	Sales		X
Add: Cost of production		X	Less: Return inwards		X
Cost of goods available for sale		X	Net Sales		X
Less: Closing stock of finished goods		X			
Cost of goods sold		X			
Gross Profit c/d		X			
		X			**X**

(LESSON PLAN ON PROBLEM SOLVING TEACHING METHOD) WEEK 4

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Kwara State College of Education (T), Lafiagi

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Sub-Topic: Profit and Loss Account

Method of Teaching: Problem Solving Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

Behavioural Objectives: At the end of the lesson students should be able to:

a. Define profit and loss account and purpose of preparing profit and loss account

b. Discuss some terminologies of profit and loss account

c. Solve a question on profit and loss account with the aid of format

d. Prepare a profit and loss account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught trading account in the last lecture

Introduction: The teacher introduces the lesson by reviewing the knowledge of profit and loss account of a sole trader and relates it with profit and loss account of a manufacturing

concern which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	**Content**	**Teacher's Activity**	**Student's Activity**
Step I	Meaning of Profit and loss Account	The teacher defines profit and loss account as the account that to shows the net profit or net loss of an organization. Income are credited and expenses are debited	Students listen and copy notes, into their notebooks
Step II	Purpose of Profit and loss Account	The teacher expatiates on the main purpose of profit and loss account is to ascertain net profit or net loss of the business	Students listen and take notes.
Step III	Terminologies of Profit and loss Account	He briefly describes the following terminologies thus: - Net profit: is total expenses minus gross profit - Carriage outward: this is the cost of transporting goods to the customers. It is called carriage on sales and must be treated as expenses.	Students listen and ask questions where necessary.
Step IV	Items under Profit and loss account	He distributes a prepared format of Profit and loss to the students	Students observe and ask relevant questions.
Step V	Preparation of Profit and loss Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is Profit and loss account? 2. Why do we prepare Profit and loss account? 3. Mention five (5) terminologies in Profit and loss account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic balance sheet	Students copy the assignment as given by the teacher.

Format of Profit and Loss Account for the year ended 31st December, 2010

Expenses	**N**	**N**		**N**	**N**
Bad debts		X	Gross profit b/d		X
Carriage outward		X	Reduction in provision for bad debts		X
Commission on sales		X			X
Salesmen salaries		X			
Stationery		X			
Administrative salaries		X			
Office rent		X			
Office insurance		X			
Office Lighting/electricity		X			
Interest on loan		X			
Depreciation:					
Office machine	X				
Furniture and fitting	X				
Delivery van	X	X			
		X			
Net profit		X			
		X			**X**

(LESSON PLAN ON PROBLEM SOLVING TEACHING METHOD) WEEK 5

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Kwara State College of Education (T), Lafiagi

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Sub-Topic: Balance Sheet

Method of Teaching: Problem Solving Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

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

a. Define balance sheet and purpose of preparing balance sheet

b. Discuss some terminologies of balance sheet

c. Solve a question on balance sheet with the aid of format

d. Prepare a balance sheet using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught balance sheet of a sole trader in the past

Introduction: The teacher introduces the lesson by reviewing the knowledge of balance sheet of a sole trader and relates it with the balance sheet of a manufacturing firm which is the new

topic

Presentation: The teacher will present his lesson through the following steps:

Steps	**Content**	**Teacher's Activity**	**Student's Activity**
Step I	Meaning of Balance sheet	The teacher defines balance sheet is the statement that shows the financial position of a business concern. It is not an account rather it is a statement.	Students listen and copy notes, into their notebooks
Step II	Purpose of balance sheet	The teacher explains that balance sheet shows the financial position of a business concern.	Students listen and take notes.
Step III	Terminologies of balance sheet	He briefly describes the some terminologies thus: - Fixed assets: these are assets which are permanent in nature and it creates avenue for the business. They can last for a long period of time. E.g land and building, furniture and fittings etc - Current assets: these are assets that can last for a short period of time. E.g stock of goods, cash at bank, cash in hand, prepaid expenses etc. - Liabilities: they are the indebtedness of the business to outsiders. It is the claim on the assets of the company. - Current Liabilities: these are liabilities which are payable within a short period of time, usually a year. E.g creditors, loan, overdraft, expenses accrued. - Capital: this is the owner's interest in the assets of the business.	Students listen and ask questions where necessary.
Step IV	Items under Balance sheet	He distributes a prepared format of balance sheet to the students	Students observe and ask relevant questions.
Step V	Preparation of Balance sheet	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.

Step VI	Evaluation	He asks the following questions orally: 1. What is balance sheet? 2. Why do we prepare Balance sheet? 3. Mention five (5) terminologies in Balance sheet	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the lesson by informing the students that there will be a test in the next class.	

Format of Balance Sheet as at 31st December, 2010

	N	N			N	N
Capital		X	**Fixed Assets**			
Add: Net profit		X	Plant and machinery		X	
		X	Less depreciation		X	X
Less: Drawings		X	Delivery van		X	
		X	Less depreciation		X	X
Current Liabilities			Furniture		X	
Bank loan	X		Less depreciation		X	X
Creditors	X		Land and building			X
Accrued expenses	X	X				X
			Current Assets			
			Closing stock of raw materials		X	
			Closing stock of work in progress		X	
			Closing stock of finished goods		X	
			Bank balance		X	
			Cash balance		X	
			Payment in advancement		X	
			Debtor	X		
			Less Provision	X	X	X
		X				**X**

APPENDIX I

(LESSON PLAN ON LECTURE METHOD) WEEK 2

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Kontagora

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Method of Teaching: Lecture Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

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

a. Explain concept of manufacturing account

b. Explain the purpose of manufacturing account

c. Describe briefly terminologies in manufacturing account

d. Solve a question on manufacturing account with the aid of the format

e. Prepare a manufacturing account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Book: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught final account of a sole trader and balance sheet

Introduction: The teacher introduces the lesson by reviewing the knowledge of final account of a sole trader and relates it with the manufacturing account which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	Content	Teacher's Activity	Student's Activity
Step I	Meaning of Manufacturing Account	The teacher defines manufacturing of goods as the transforming of raw materials into finished goods	Students listen and copy notes, into their notebooks
Step II	Purpose of Manufacturing Account	He explains that manufacturing account is prepare to determine the cost of the goods manufactured and to ascertain the amount of any profit on the manufacturing process	Students copy notes.
Step III	Terminologies of Manufacturing Account	He briefly describes the following terminologies thus: - Cost of production: is the total expenditure incurred in the production output. - Prime cost: These are cost than can be traced to a particular production unit - Direct materials: this is the expenditure incurred on raw materials which can be traced to a particular production unit - Direct labour: this refers to the wages of employees who are directly engaged in the production process e.g wages - Direct expenses: these are expenses which have direct identification with production e.g royalties - Factory overheads: these relate to expenditure incurred in running the factory which cannot be traced to a particular production unit e.g indirect wages, factory rent and rates. Others include: work in progress (opening and closing), Stocks of raw materials (Opening and closing).	Students listen and ask questions where necessary.

Step IV	Items under manufacturing account	He distributes a prepared format of manufacturing account to the students	Students observe and ask relevant questions.
Step V	Preparation of Manufacturing Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is manufacturing account? 2. Why do we prepare manufacturing account? 3. Mention five (5) terminologies in manufacturing account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic trading account	Students copy the assignment as given by the teacher.

Format of Manufacturing Account for the year ended 31st December, 2010

	N	N		N	N
Opening stock of raw materials		X	Cost of production b/d		X
Add: Purchases of raw materials	X				
Add: Carriage inward on raw materials	X	X			
		X			
Less: Closing stock of raw materials		X			
Cost of raw materials consumed		X			
Add: direct wages		X			
Royalties		X			
Direct expenses		X			
Prime cost		X			
Factory overhead expenses					
Factory power	X				
Factory rent and rates	X				
Indirect wages	X				
Factory insurance	X				
Depreciation of plant and machinery	X				
Fuel and power	X				
Lubricants	X	X			
		X			
Add: Opening stock of work-in-progress		X			
		X			
Less: Closing stock of work-in-progress		X			
Cost of production c/d		**X**			**X**

(LESSON PLAN ON LECTURE METHOD) WEEK 3

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Kontagora

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Sub-Topic: Trading Account

Method of Teaching: Lecture Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

Behavioural Objectives: At the end of the lesson students should be able to:

a. Define trading account and purpose of preparing trading account

b. Discuss some terminologies of trading account

c. Solve a question on trading account with the aid of format

d. Prepare a trading account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught manufacturing account

Introduction: The teacher introduces the lesson by reviewing the knowledge of manufacturing account and relates it with trading account which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	Content	Teacher's Activity	Student's Activity
Step I	Meaning of Trading Account	The teacher explains the concept of trading as account prepared to show the gross profit or gross loss	Students listen and copy notes, into their notebooks
Step II	Purpose of Trading Account	He teacher gives out the main purpose of trading account as to basically ascertain gross profit or gross loss of the business	Students listen and take notes.
Step III	Terminologies of Trading Account	He briefly describes the following terminologies thus: - Purchases: is the goods bought for resale. It does not include the purchase of fixed assets. - Sales: this is the total of cash and credit sales during the trading period and it does not include sales of fixed assets. - Returns outwards: these are goods returned to the suppliers. It must be deducted from the purchases for the period - Returns inwards: these are goods returned by the customers. It must be deducted from the sales for the period. - Carriage inwards: this is the cost of transporting goods to the company. It is normally added to purchases - Cost of goods available for sale: this is the amount arrived at, after adding the purchases to the opening stock - Cost of goods sold: this is the cost of goods actually sold. - Opening stock: this is the stock of goods available for sale at the beginning of the year. - Closing stock: this is the stock of goods at the end of the trading period. - Gross profit: this is the excess of the sales(less returns) over cost of goods sold.	Students listen and ask questions where necessary.

Step IV	Items under manufacturing account	He distributes a prepared format of trading account to the students	Students observe and ask relevant questions.
Step V	Preparation of Manufacturing Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is trading account? 2. Why do we prepare trading account? 3. Mention five (5) terminologies in trading account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic profit and loss account	Students copy the assignment as given by the teacher.

Format of Trading Account for the year ended 31st December, 2010

	N	N		N	N
Opening stock of finished goods		X	Sales		X
Add: Cost of production		X	Less: Return inwards		X
Cost of goods available for sale		X	Net Sales		X
Less: Closing stock of finished goods		X			
Cost of goods sold		X			
Gross Profit c/d		X			
		X			**X**

(LESSON PLAN ON LECTURE METHOD) WEEK 4

Name of Teacher:	David, Seyi
Reg. Number:	16/27/BPE005
Subject Combination:	Business Education
College Name:	Federal College of Education, Kontagora
Class:	200-level
Average Age:	18 years
Subject:	Financial Accounting II
Topic:	Manufacturing Account
Sub-Topic:	Profit and Loss Account
Method of Teaching:	Lecture Method
Duration:	Two hours
General Objective:	To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

Behavioural Objectives: At the end of the lesson students should be able to:

a. Define profit and loss account and purpose of preparing profit and loss account

b. Discuss some terminologies of profit and loss account

c. Solve a question on profit and loss account with the aid of format

d. Prepare a profit and loss account using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught trading account in the last lecture

Introduction: The teacher introduces the lesson by reviewing the knowledge of profit and loss account of a sole trader and relates it with profit and loss account of a manufacturing

concern which is the new topic

Presentation: The teacher will present his lesson through the following steps:

Steps	**Content**	**Teacher's Activity**	**Student's Activity**
Step I	Meaning of Profit and loss Account	The teacher defines profit and loss account as the account that to shows the net profit or net loss of an organization. Income are credited and expenses are debited	Students listen and copy notes, into their notebooks
Step II	Purpose of Profit and loss Account	The teacher expatiates on the main purpose of profit and loss account is to ascertain net profit or net loss of the business	Students listen and take notes.
Step III	Terminologies of Profit and loss Account	He briefly describes the following terminologies thus: - Net profit: is total expenses minus gross profit - Carriage outward: this is the cost of transporting goods to the customers. It is called carriage on sales and must be treated as expenses.	Students listen and ask questions where necessary.
Step IV	Items under Profit and loss account	He distributes a prepared format of Profit and loss to the students	Students observe and ask relevant questions.
Step V	Preparation of Profit and loss Account	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.
Step VI	Evaluation	He asks the following questions orally: 1. What is Profit and loss account? 2. Why do we prepare Profit and loss account? 3. Mention five (5) terminologies in Profit and loss account	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the class giving the students reading assignment on the next topic balance sheet	Students copy the assignment as given by the teacher.

Format of Profit and Loss Account for the year ended 31st December, 2010

Expenses	**N**	**N**		**N**	**N**
Bad debts		X	Gross profit b/d		X
Carriage outward		X	Reduction in provision for bad debts		X
Commission on sales		X			X
Salesmen salaries		X			
Stationery		X			
Administrative salaries		X			
Office rent		X			
Office insurance		X			
Office Lighting/electricity		X			
Interest on loan		X			
Depreciation:					
Office machine	X				
Furniture and fitting	X				
Delivery van	X	X			
		X			
Net profit		X			
		X			**X**

(LESSON PLAN ON LECTURE METHOD) WEEK 5

Name of Teacher: David, Seyi

Reg. Number: 16/27/BPE005

Subject Combination: Business Education

College Name: Federal College of Education, Kontagora

Class: 200-level

Average Age: 18 years

Subject: Financial Accounting II

Topic: Manufacturing Account

Sub-Topic: Balance Sheet

Method of Teaching: Lecture Method

Duration: Two hours

General Objective: To teach students how to prepare Manufacturing, Trading, Profit and Loss Account and balance sheet

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

a. Define balance sheet and purpose of preparing balance sheet

b. Discuss some terminologies of balance sheet

c. Solve a question on balance sheet with the aid of format

d. Prepare a balance sheet using work sheet

Instructional Materials: Visual material (real object with chalkboard)

Reference Material: Essential Financial Accounting Textbook for SSCE by O. A. Longe and R. A. Kazeem

Previous knowledge: Students have been taught balance sheet of a sole trader in the past

Introduction: The teacher introduces the lesson by reviewing the knowledge of balance sheet of a sole trader and relates it with the balance sheet of a manufacturing firm which is the new

topic

Presentation: The teacher will present his lesson through the following steps:

Steps	**Content**	**Teacher's Activity**	**Student's Activity**
Step I	Meaning of Balance sheet	The teacher defines balance sheet is the statement that shows the financial position of a business concern. It is not an account rather it is a statement.	Students listen and copy notes, into their notebooks
Step II	Purpose of balance sheet	The teacher explains that balance sheet shows the financial position of a business concern.	Students listen and take notes.
Step III	Terminologies of balance sheet	He briefly describes the some terminologies thus: - Fixed assets: these are assets which are permanent in nature and it creates avenue for the business. They can last for a long period of time. E.g land and building, furniture and fittings etc - Current assets: these are assets that can last for a short period of time. E.g stock of goods, cash at bank, cash in hand, prepaid expenses etc. - Liabilities: they are the indebtedness of the business to outsiders. It is the claim on the assets of the company. - Current Liabilities: these are liabilities which are payable within a short period of time, usually a year. E.g creditors, loan, overdraft, expenses accrued. - Capital: this is the owner's interest in the assets of the business.	Students listen and ask questions where necessary.
Step IV	Items under Balance sheet	He distributes a prepared format of balance sheet to the students	Students observe and ask relevant questions.
Step V	Preparation of Balance sheet	He distributes already prepared question to the students. He groups them into ten groups in solving the question using work sheet. At the point of presentation the teacher moderates excesses and deficiencies.	Students meet to carry out the task given to them within the stipulated time frame.

Step VI	Evaluation	He asks the following questions orally: 1. What is balance sheet? 2. Why do we prepare Balance sheet? 3. Mention five (5) terminologies in Balance sheet	Students answer the questions orally
Step VII	Summary	He summarizes the lesson emphasizing on the main points of the topic	Students copy notes as the teacher summarizes the lesson.
Step VIII	Assignment	He concludes the lesson by informing the students that there will be a test in the next class.	

Format of Balance Sheet as at 31st December, 2010

	N	N			N	N
Capital		X	**Fixed Assets**			
Add: Net profit		X	Plant and machinery		X	
		X	Less depreciation		X	X
Less: Drawings		X	Delivery van		X	
		X	Less depreciation		X	X
Current Liabilities			Furniture		X	
Bank loan	X		Less depreciation		X	X
Creditors	X		Land and building			X
Accrued expenses	X	X				X
			Current Assets			
			Closing stock of raw materials		X	
			Closing stock of work in progress		X	
			Closing stock of finished goods		X	
			Bank balance		X	
			Cash balance		X	
			Payment in advancement		X	
			Debtor	X		
			Less Provision	X	X	X
		X				**X**

APPENDIX J

OKENE

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
SCORE * TEST	500	99.4%	3	0.6%	503	100.0%

Report

SCORE

TEST	Mean	Std. Deviation
PRETEST	29.0600	19.17224
POSTTEST	49.2720	20.98034
Total	39.1660	22.48113

Group Statistics

	TEST	N	Mean	Std. Deviation	Std. Error Mean
SCORE	PRETEST	250	29.0600	19.17224	1.21256
	POSTTEST	250	49.2720	20.98034	1.32691

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SCORE	Equal variances assumed	2.724	.099	-11.245	498	.000	-20.21200	1.79750	-23.74361	-16.68039

	Equal variances not assumed			-11.245	494.009	.000	-20.21200	1.79750	-23.74368	-16.68032

T-Test LAFIAGI

Group Statistics

	TEST	N	Mean	Std. Deviation	Std. Error Mean
SCORE	PRETEST	272	31.7096	16.89102	1.02417
	POSTTEST	272	56.1213	18.22279	1.10492

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SCORE	Equal variances assumed	1.604	.206	-16.203	542	.000	-24.41176	1.50657	-27.37121	-21.45232
	Equal variances not assumed			-16.203	538.908	.000	-24.41176	1.50657	-27.37124	-21.45229

T-Test KOTANGORA

Group Statistics

	TEST	N	Mean	Std. Deviation	Std. Error Mean
SCORE	PRETEST	192	27.1406	20.54024	1.48236
	POSTTEST	192	48.7708	20.15645	1.45467

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SCORE	Equal variances assumed	.751	.387	-10.415	382	.000	-21.63021	2.07689	-25.71377	-17.54665
	Equal variances not assumed			-10.415	381.864	.000	-21.63021	2.07689	-25.71377	-17.54664

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PRETEST	Between Groups	2443.119	2	1221.560	3.482	.031
	Within Groups	249427.358	711	350.812		
	Total	251870.478	713			

POSTTEST	Between Groups	8436.699	2	4218.350	10.820	.000
	Within Groups	277194.417	711	389.866		
	Total	285631.116	713			

PRETEST

Duncan[a,b]

		Subset for alpha = 0.05	
EPERIMENT	N	1	2
KONTAGORA	192	27.1406	
OKENE	250	29.0600	29.0600
LAFIAGI	272		31.7096
Sig.		.269	.127

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 232.832.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

POSTTEST

Duncan[a,b]

		Subset for alpha = 0.05	
EPERIMENT	N	1	2
KONTAGORA	192	48.7708	
OKENE	250	49.2720	
LAFIAGI	272		56.1213
Sig.		.784	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 232.832.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
PRETEST * EPERIMENT	714	93.7%	48	6.3%	762	100.0%
POSTTEST * EPERIMENT	714	93.7%	48	6.3%	762	100.0%

Report

EPERIMENT		PRETEST	POSTTEST
OKENE	Mean	29.0600	49.2720
	Std. Deviation	19.17224	20.98034
LAFIAGI	Mean	31.7096	56.1213
	Std. Deviation	16.89102	18.22279
KONTAGORA	Mean	27.1406	48.7708
	Std. Deviation	20.54024	20.15645
Total	Mean	29.5532	51.7465
	Std. Deviation	18.79507	20.01511

Report

EPERIMENT		PRETEST	POSTTEST
OKENE	Mean	29.0600[a]	49.2720[a]
	Std. Deviation	19.17224	20.98034
LAFIAGI	Mean	31.7096[b]	56.1213[b]
	Std. Deviation	16.89102	18.22279
KONTAGORA	Mean	27.1406[ab]	48.7708[a]
	Std. Deviation	20.54024	20.15645
Total	Mean	29.5532	51.7465
	Std. Deviation	18.79507	20.01511

Values with the same alphabet along a column are not significantly different at $p<0.05$

APPENDIX K

FEDERAL COLLEGE OF EDUCATION

☎:220183, 220517 (FAX: 067-220310
PROVOST: 08188384199.
REGISTRAR: 08188384200.

P.M.B 39,
Kontagora, Niger State.

Reference:

Date: 19/10/2018

David Seyi
Department of Business
And Entrepreneurship
Education
Kwara State University Malale.

Re- Permission to carry out Research in Business Education Department, Federal College Of Education Kontagora.

With reference to your letter dated 24th sept 2018 on the above subject, I am directed to convey the Provost's approval for you to carry out a Ph.D research work in the Business Education department for a period of six (6) weeks.

I wish you all the best in your research work.

19/10/2018

S.J Tsiabari
A.R. (Estab SSM)
For: Registrar

KWARA STATE COLLEGE OF EDUCATION (TECHNICAL)

P.M.B. 1, LAFIAGI, KWARA STATE.

(OFFICE OF THE REGISTRAR)

Provost: DR. MUHAMMED D. IBRAHIM. NCE, B.Sc (Ed), M.Ed, Ph.D. TRCN, AETAN, ASSEREN
Registrar : OYEDELE J. OLUGBENGA, B.sc (Hons), MPA, Cert. in Comp. MNIM, FSI
08065852673
09029370029

Our Ref: REG/COETL/541/I/7

Your Ref: _____

Date: 22ND Nov, 2018

David Seyi
Department of Business and Entrepreneurship Education,
Kwara State University,
Malete.

RE: PERMISSION TO CARRY OUT RESEARCH IN BUSINESS EDUCATION DEPARTMENT

Please refer to your letter dated 12th November, 2018 requesting for permission to carry out research in Business Education Department. In view of your request, I have been directed to convey Management's approval to your request without further delay.

Kindly accept the assurance of our highest regards.

Thanks.

Z.S. Ahmad (Agbarere)
AR (ADMISSION)
For: Registrar