

**EFFECTS OF PROBLEM-SOLVING AND COOPERATIVE TEACHING METHODS
ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN
FINANCIAL ACCOUNTING IN KADUNA STATE, NIGERIA**

BY

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JULY, 2018

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE
STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT
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**DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION (BUSINESS
EDUCATION),
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA**

JULY, 2018

DECLARATION

I declare that this Dissertation titled Effects of Problem-Solving and Cooperative Teaching Methods on Academic Performance of Secondary School Students in Accounting in Kaduna State, Nigeria, has been carried out by me in the department of Vocational and Technical Education. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of the dissertation was previously presented for another degree or diploma at this or any other institution.

Dorcas Oluwakemi IBITOYE
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Date

CERTIFICATION

This Dissertation titled EFFECTS OF PROBLEM-SOLVING AND COOPERATIVE TEACHING METHODS ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN ACCOUNTING IN KADUNA STATE, NIGERIA by Dorcas Oluwakemi IBITOYE meets the regulation governing the award of the Degree of Masters of Business Education of Ahmadu Bello University and is approved for its contribution to knowledge and literary presentation.

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Date

DEDICATION

This research work is dedicated to my parent -Mr and Mrs P.O. Ibitoye and my darling husband Benjamin Oladele Rowland.

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More also her parents and mentor Mr and Mrs P.O Ibitoye for their moral and financial support, encouragement and motivation toward achieving this goal, Its my prayer that God Almighty spare their lives to reap the fruit of their labour in Jesus name. Her siblings are gratefully remembered for their prayers and encouragements throughout the period of her academic pursuit. Finally, and most importantly, to God Almighty to whom all the glory is given.

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ABSTRACT

This study investigated the effects of problem-solving and co-operative teaching methods on academic performance of secondary school students in accounting in Kaduna State, Nigeria. The research design was a quasi-experimental design. The population was 1509. The sample was 90 students, which were obtained using purposive sampling method. The instruments used for data collection were Instructional Package for Financial Accounting (IPFA) and Financial Accounting Achievement Test (FAAT). The data collected were analyzed using t-test at $P \leq 0.05$. The findings of the study among others revealed that Problem-solving teaching method has significant effects on students' academic performance in financial accounting in senior secondary schools in Kaduna State, cooperative teaching method had more effects on students' performance in financial accounting in senior secondary schools in Kaduna States. The researcher concluded that problem-solving and co-operative teaching methods are better and more effective in teaching and learning financial accounting and effective use of these methods could enhance secondary school students' performance in financial accounting. The researcher therefore recommended that secondary school teachers should be encouraged to use problem-solving and cooperative teaching methods in teach financial accounting in senior secondary schools.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Education is the act of imparting or acquiring general knowledge and developing the powers of reasoning and judgment. It is an investment that pays off anytime, anywhere. By investing in education, governments, corporations, communities and individuals can help the youth to face the challenges ahead. Educational system in Nigeria has three levels including: primary school level, secondary school level and tertiary school level. Primary education is also called elementary education which provides pupils with a basic understanding of various subjects as well as the skill they will use throughout their lives. Successful pupils at the primary school level who have passed the entrance examination to secondary school can then proceed with the secondary school education.

The Federal Republic of Nigeria (2004) stated the broad goal of the secondary education which is to prepare individuals for: “useful living within the society and higher education”. To achieve this objective, secondary school education in Nigeria has six years duration given in two stages – three years of junior secondary school followed by three years of senior secondary school. The curriculum designed for senior secondary school is comprehensive and broad based, aimed at broadening student’s knowledge and outlook. Subjects offered in senior school are in three groups – core subjects, vocational and non-vocational subjects. One of the vocational subjects is Financial Accounting.

Teaching is the process of carrying out those activities that experience has shown to be effective in getting students to learn. The ability of the teacher to teach should be judged on the basis of students learning. Teachers should be held accountable for students learning despite poor parenting, negative attitudes and other social ills. Active teaching and learning involve the use of strategies which maximize opportunities for interaction Aliyu (2006).

Teaching method comprises the principles and method used for instruction to be implemented by the teachers to achieve the desired learning in students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient, it has to be in relation with the characteristics of the learner and the type of learning it is supposed to bring about. Ibe (2013) suggested that the design and selection of teaching methods must take into account not only the nature of the subject matter but also how the students learn.

The approaches of teaching can be classified into teacher centered and learner centered. In teacher centered approach to learning, teachers are the main authority figure in this model; students are viewed as “empty vessel” whose primary role is to passively receive information (via lectures and direct instruction) with an end goal of testing and assessment. In student centered approach to learning, teachers and students play an active role in the learning process. The teacher’s primary role is to coach and facilitate student learning and overall comprehension of materials. Students’ learning is measured through both formal and informal forms of assessment including group projects, student portfolios and class participation Berrett (2012).

There are several methods used in teaching and learning, these among others are; demonstration method, conventional method, cooperative teaching method, guided discovery method, problem solving method, class discussion method, debriefing method, class action research method. This research work will only focus on two methods which are problem solving and cooperative teaching.

Problem-solving method is a systematic approach that reviews students and weaknesses, identifies evidence-based instructional interventions, frequently collects data to monitor student progress, and evaluates the effectiveness of interventions implemented with the student. Cantrell (2004) opined that, much of the early implementation of problem-solving

models has involved elementary schools, problem solving also has significant potential to improve outcomes for secondary school students. Therefore, it is important for secondary school administrators to understand the basic concepts of problem solving and consider how components of this model could mesh with the needs of their schools and student. The benefit of problem based learning method is to help accounting students to develop the ability for self-directed learning in order to cope with ever changing and increasing body of knowledge they will need to succeed as professionals.

Cooperative teaching instructional strategy involves a situation in which students work together cooperatively and interdependently in small groups towards a group goal. Cooperative teaching is described by Adeyemi (2008) as the instructional practice of placing students into small groups and having them work together toward a common goal. Each group member learns new materials and helps other group members learn important information.

Azih and Nwosu (2011) defined accounting as the recording, classifying, summarizing and communicating of financial information to interested parties and interpreting to help in making specific business decision. Accounting records are kept to evaluate the performance and profitability of the business organization, prevention of fraud, monitoring of the enterprises progress and for making economic comparison. The accounting curriculum in the secondary school is carefully designed to suit the need of the students. If it is properly inculcated into the students by using appropriate teaching methods, many of them would be properly grounded and prepared to become professionally qualified accountant.

It is believed that good and quality teachers bring about positive students' performance. Okon (2002) observed that poor academic performance of students in accounting is being reported in the most countries especially developing countries. For instance Ezeani (2013) noted that the situation is not different in Nigeria where poor academic performance of

students in accounting has been recorded in many public examination such as Senior Secondary Certificate Examination (SSCE) conducted by the West African Examination Council (WAEC).

Gender refers to the personal sexual identity of an individual, regardless of the person's biological and outward sex. How people define masculinity and femininity can vary based on the individual's background and surrounding culture. Different societal expectations in different cultures establish the behavioral, psychological and physical attributes that are associated to one gender or another. It has been reported by Slavin (2005) that most girls choose to be successful in those subjects considered achiever while at the same time maintaining their femininity. Several researchers reported that sex differences in subject choice and also in achievement within the subjects. School subjects according to investigations are sex-stereotype. For instance, mathematics, physical sciences, computing and engineering are regarded as masculine subjects, while humanities, languages; domestic subjects are regarded as feminine subjects.

In conclusion, having discussed the variables and the relationship that exists among the variables, this formed the background of this research work.

1.2 Statement of the Problem

Accounting like every other business subject has an inestimable value which it had played and is still playing definite and important roles in the world of business. Learning by doing requires the availability of equipment and materials. Okebukola (2002) reported that, the financial support of the government and educational bodies is so low and could be needed by the schools. This can in turn limit teachers to treat the practical aspects of accounting, namely, accounting software/ packages such as Peachtree, database, spreadsheets, etc.

Ezeani (2013) pointed out some problems encountered in teaching and learning of financial accounting in secondary schools among others are: No student wants to study

accounting as a terminal course, In this regard, they often complained that the subject is too difficult. Even to balance the cash book, trial balance among others is a very big problem. Through this, many students prefer to offer commercial subjects without accounting. Accounting classroom practices were not application based; Researches have shown that there are a lot of factors that could influence the academic performance of students in accounting. Such as negative attitude of the students towards accounting, lack of qualified accounting teachers, inappropriate use of teaching methods, unavailability of instructional materials among others.

Uwameiye and Ogunbameru (2008) blamed the problem on accounting teachers' insensitivity to the nature of financial accounting when planning instructional activities in the classroom. According to her, financial accounting is not one of the subjects that can be mastered by mere memorization of the basic rules. It requires total determination, sound theoretical knowledge and intensive practice in application.

Despite the government's commitment to improve secondary school education in Nigeria, there is still a marginal decline in the students' performance in national examination. The West African Examination Council (WAEC) report of 2014 indicated that, in 2012, only 38 per cent of the candidates that sat for the examination have met the requirement for admission at the higher level of learning. Similarly, in 2013, the percentage dropped down to 29.17 while in 2014, approximately over 70 percent failure was recorded. Ezeani (2013) reported that there has been a decline in the performance of secondary students in financial accounting in Kaduna state especially in their external examination. He further stated that, the major factor contributing to students' failure in financial accounting is the predominant usage of conventional teaching approach where teacher dominates the class and does not encourage students to be active participants in the classroom. This approach has a negative impact on students' achievement (Samad, 2005). Financial accounting is not a course or subject that

can be learned simply by memorization of basic rules and principles. It requires full participation of learners in the learning process

Uwameiye and Ogunbameru (2010) concluded that, any study carried out on teaching methodology cannot be a waste effort. This is because teaching and learning situation must be crowded with reputable method before an effective communication can bring about ideal permanent change.

Despite several studies carried out, the consistent poor performance of students in financial accounting at terminal examination up to the senior secondary school certificate examination (SSCE) still persist, this leaves one in doubt about the effectiveness of teaching methods popularly used by accounting teachers for teaching the subject. The use of talk and chalk method of teaching leads to memorization of facts and concepts which constitute the main problem this study has to addressed using empirical evidences.

1.3 Objectives of the Study

The main objective of this study was to investigate the effects of problem-solving and cooperative teaching methods on the academic performance of students in financial accounting in Kaduna State, Nigeria. The specific objectives of the study were to:

1. determine the effects of problem-solving teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria.
2. determine the effects of cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria.
3. establish whether any difference exist between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria.

4. ascertain whether any difference exist between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna State, Nigeria.
5. to find out whether any difference exist between the effect of problem-solving teaching method and cooperative teaching method on academic performance of female secondary school students in accounting in Kaduna State, Nigeria.

1.4 Research Questions

To effectively carryout this study, the following research questions were formulated based on the specific objectives:

1. what is the effect of problem-solving teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria?
2. what is the effect of cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria?
3. what is the difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria?
4. what is the difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna State, Nigeria?
5. what is the difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of female secondary school students in accounting in Kaduna State, Nigeria?

1.5 Research Hypotheses

The following null hypotheses were formulated during the cause of the study

1. Problem-solving teaching method has no significant effect on academic performance of secondary school students in accounting in Kaduna State, Nigeria.
2. Cooperative teaching method has no significant effect on academic performance of secondary school students in accounting in Kaduna State, Nigeria.
3. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State, Nigeria.
4. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna State, Nigeria.
5. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of female secondary school students in accounting in Kaduna State, Nigeria.

1.6 Significance of the Study

The findings from this study are expected to be significant in many ways; the study will avail curriculum developers, educational planners, students, teachers, researchers, text book publishers, professional bodies and associates as stated below. The findings from this study will grant the curriculum developers and educational planners the opportunity to concretize the process of evaluation of teaching and learning of financial accounting at secondary school level and also to commend the two methods adopted in this study as a teaching strategy in schools where appropriate.

The findings of this research work will help to improve the performance of students in financial accounting by making the subject interesting to the students in such a way that other commercial students who dropped the subject will go and re-register the subject. This study

is important in the sense that it will help the teachers to see the effect of problem-solving and cooperative teaching methods on the academic performance of secondary school students compared to lecture method so that they can employ appropriate teaching methods in their teaching and learning activities in accounting.

This study is significant to the researchers who might want to carryout work on such related issues by providing them empirical evidence on the present status of financial accounting teaching and learning activities. Due to the importance of this research work, text book publishers need to incorporate the effective teaching strategies in their publications based on the findings of the study in relation to financial accounting at secondary school level.

Professional bodies and associations such as National Business Education Association (NBEA), Association of Business Educators of Nigeria (ABEN), National Association of Business Teachers Education (NABTE), Business Education Association in Vocational Education (BEAVE), National Board for Technical Education (NBTE), National Education Research and Development Council (NERDC), State Education Resource Centre (SERC) among others, will hopefully benefit by considering the findings of this study in developing instructional method.

1.7 Basic Assumptions

The following were the assumptions for this study:

1. Problem-solving teaching method may influence the academic performance of secondary school students in accounting in Kaduna State, Nigeria.
2. Cooperative teaching method may influence the academic performance of secondary school students in accounting in Kaduna State, Nigeria.

3. Factors other than teaching method (such as availability of instructional aids, motivation, peer influence) have the same effect on academic performance of secondary school students in accounting in Kaduna State, Nigeria.

1.8 Delimitation of the Study

This study was delimited to only co-educational secondary schools in kaduna state due to its gender involvement. The researcher used only SS2 students for the study because they are assumed to be stable and have adequate exposure to financial accounting. The curriculum contents were limited to one accounting topic which was manufacturing account. The reason why the researcher chose this topic was because she discovered that both West Africa Examination Council (WAEC) and National Examination Council (NECO) do set questions from this topic every year. Also whenever the students further their study, they will still meet the same topic at the higher institutions.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter reviews related literature and presented under the following sub headings:

- 2.1 Theoretical framework
 - 2.2.1 Concept of Problem-Solving Teaching Method
 - 2.2.2 Concept of Cooperative Teaching Method
 - 2.2.3 Concept of Accounting in Secondary School
 - 2.2.4 Concept of Students' Performance in Accounting
 - 2.3 Effects of Problem-solving Teaching Method on Performance of Secondary School Students in Subjects Other Than Accounting
 - 2.4 Effects of Cooperative Teaching Method on Performance of Secondary School Students in Subjects Other Than Accounting
 - 2.5 Performance of Secondary School Students in Accounting Other Than Problem-Solving and Cooperative Teaching Method
 - 2.6 Empirical Studies
 - 2.7 Summary of Reviewed Literature
- 2.1 Theoretical frame work**

This research work was based on Gestalt theory (problem-solving teaching method) and social interdependence theory, cognitive development and motivational theories (cooperative teaching method).

The gestalt theory was introduced by Graf Christian von Ehrenfels in 1890. The gestalt theory argued that learning takes place as students were able to comprehend a concept in its entirety, rather than broken up into parts. Gestalt theorist proposed that the experiences and perceptions of learners have a significant impact on the way that they learn. The theory argued further that learning happens best when the instruction is related to the real life experiences of the learner and that human brain has the ability to make a map of the stimuli caused by these life experiences. Whenever the brain sees only part of a picture, the brain automatically attempts to create a complete picture.

The Gestalt theory placed its main emphasis on cognitive processes of a higher order, causing the learner to use higher problem solving skills. They must look at the concepts presented to them and search for the underlying similarities that link them together into a cohesive whole. In this way, learners are able to determine specific relationships amongst the ideas and perceptions presented. The Gestalt theory of learning purports the importance of presenting information or images that contain gaps and elements that don't exactly fit into the picture. This type of learning requires the learner to use critical thinking and problem solving skills. Rather than putting out answers by rote memory, the learner must examine and deliberate in order to find the answers they are seeking.

Social interdependence theory was introduced by Johnson and Johnson in 1998 while cognitive development theory was introduced by Vygotsky in 1978 and motivational theory was also introduced by Slavin in 1995. Social interdependence theory postulates that the group members are interdependence. In other words the achievement of each individual's goals is affected by the actions of others. While cognitive development theory emphasizes the importance of social interaction in promoting the cognitive development of individuals. Motivational theory is mainly focusing on goal structure. The goal structure creates a situation in which the only way the group members can achieve their personal goal is through the group success that is, if the group is successful.

Cooperative teaching method is the teaching style where students are placed in small groups and the group members are linked together in such a way that they cannot succeed unless every member in the group succeed. They assist and encourage the effort of each other to make sure that all the group members master the lesson in order to achieve their group objective. In this sense, cooperative teaching method comes from these three (3) theoretical perspectives.

2.2.1 Concept of Problem-Solving Teaching Method

Problem-solving is referred to the method of teaching where both the cognitive representation of prior experience and the components of a current problem situation are reorganized in order to achieve a designated objective (Adeniran, 2011). Such activity may consist of more or less trial and error variation of available alternatives or of a deliberate attempt to formulate a principle or discover a system of relations underlying the solution of a problem (insight). In terms of approach, two principal kinds of problem solving may be distinguished, both of which occur at all age levels: the trial and error approach and the insightful approach. The trial and error approach consist of random and systematic variation, approximation and correlation of responses until a successful variant emerges. The insightful approach on the other hand, implies a set that is oriented towards discovery of a meaningful mean-end relationship underlying the solution of a problem. It may involve either simple transposition, of a previous learned principle to an analogous new situation or more fundamental cognitive restructuring and integration of prior learning is more or less inevitable in problems where no meaningful pattern of relationships exists or is discernable (Adeniran, 2011).

Problem-solving teaching method is a model which centred on students, develops active and motivated learning, problem solving skills and broad field knowledge, and based on the deep understanding and problem solving. (Major et al, 2000). In those classrooms in which problem-solving teaching method is used for instructional process, the students take much more responsibility of their own learning. They have become independent and long life learners, and can continue to learn in their whole life.

According to Olagunju (2002), problem-solving teaching method is a general characteristic of motor learning and of the solution of most mazes and complex box patterns. It occurs most efficiently when subjects are aware of the direction and extent of their

deviations from the desired solution and are permitted to execute the necessary correlation and approximation. The insightful problem solving is obviously a type of meaningful discovery learning in which problem conditions desired objectives are not arbitrarily and substantively related to existing cognitive structure. It involves transforming information by analysis, synthesis, hypothesis, formulation and testing, rearrangement, recombination, translation and integration. Olagunju (2002) further explained that the problem solving method is a process by which the learner discovers a combination of previously learned rules that can be used to achieve a solution in a problem situation.

The stages of the problem solving techniques are: defining a problem, collecting information related to the solution process, reasoning through the problem state to the solution process, checking and evaluating the solution. A problem exists if an individual has a goal and a choice of means by which it might be achieved, but does not know how to proceed immediately. The psychology of problem solving deals primarily with intellectual problems. The intellectual problems are made up of those which can be solved initially. Two principal methods are involved; examine what scientist, mathematicians and others have said about their own activities and presenting tests problems to experimental subjects, noting the effect of basking individuals to think along” as they solve problems, and developing theoretical models to explain the sequence of steps that typically appears in such reports.

Processes of problem solving are not entirely open to consciousness, one may begin by reasoning consciously and deliberately but the solution often comes in its own time, suddenly and out of nowhere. Oladoye (2004), noted that there is lack of agreement among scholars on what constitutes a problem, but they however agreed on the condition needed for a problem to exist. For a problem to exist there must be an existence of a question that an individual has accepted to answer. The behavior normally employed by the individual in attaining the goal set and deliberation on how to solve the problem must take place.

Adeniran (2011) said that, in every problem solving disciplines, the students must be able to answer the following questions from the problem.

- I. What is the problem about?
- II. What am I asked to do?
- III. What do I know about similar situation?
- IV. How can I go about applying the information to solve the problem?
- V. Does my solution make sense?

Olawoye (2006) believed that problem solving is a complex mental process that requires visualizing imaging, abstracting, synthesizing and generalizing ideas. Adeniran (2011) was of the opinion that the problem solving is one of the approaches adopted by many educators in recent times to tackle the deficiency of the learners. Problem solving tasks are set as a regular part of the course work on most courses in science, mathematics and technology, and in some social science courses as well. They are seen as an important part of the students' work because they require the application of knowledge and principles to new situations, thus testing and reinforcing the students' real understanding of what they have learned. Knowledge without the ability to apply it is rightly seen as a very poor commodity, and teachers therefore regard problem solving exercises as an important part of learning (Adeniran, 2011).

Odili (2006) described problem solving as the process of applying previously acquired knowledge to new and unfamiliar situations. Problem solving can also be considered as a method of bridging the gap between a problem state and a solution state. Problem solving is also a form of discovering learning in which the gap between a learners' existing knowledge and the solution to the problem is bridged. It is the highest form of knowledge, which occurs as a result of assembling already known rules for the purpose of creating a new superior rule, which is learned, and which also allows appropriate solutions to the problem.

Problem-solving teaching method is a systematic approach that reviews student strengths and weaknesses, identifies evidence-based instructional interventions, frequently collects data to monitor student progress, and evaluates the effectiveness of interventions implemented with the student. Problem solving is a model that first solves student difficulties within general education classrooms. If problem solving interventions are not successful in general education classrooms, the cycle of selecting intervention strategies and collecting data is repeated with the help of a building-level or grade-level intervention assistance or problem solving team. Rather than relying primarily on test scores (e.g. from an IQ or math test), the students' response to general education interventions becomes the primary determinant of his or her need for special education evaluation and services (Cantrell, 2004).

In contrast to exercise problem solving requires the following specific abilities of students:

- I. ability to read and comprehend what the problem is required to find;
- II. Ability to relate the problem to a previous one, that is similar and to recall facts, theorems, formulas or experiences that are relevant to the problem in hand;
- III. Ability to translate the problem into number sentences;
- IV. Ability to identify the structure of the problem, which may include facts operations and variables to be determined;
- V. Ability to carry out correct computational procedures to arrive at the desired solution;
- VI. Ability to review the solution in order to validate, improve, generalize and constitute what else might be learned.

To learn to solve problems, teachers must schedule time for problem solving approaches. Many of the heuristic strategies proposed by Polya are quite broad and vague and therefore difficult to implement in a given case. Odili (2006) stated that the five stages in problem solving consist of the following:

- I. The first is a state of doubt, cognitive perplexity, frustration, or awareness of difficulty.
- II. The second is concerned with the attempt of identifying the problem, including a rather non-specific designation of the ends that are sought, the gap to be filled, or the goal to be reached, as defined by the situation that set the problem.
- III. Here, the learners relate their problem solving propositions to cognitive structure, thereby activating relevant background ideas and previously achieved problem solution, which in turn are reorganized(transformed) in the form of problem solving propositions or hypothesis.
- IV. At this stage, there is successive testing of the hypothesis and reformulation of the problem, if necessary.
- V. Lastly, the solver incorporate the successive testing of the solution into cognitive structure (understanding it) then apply it both to the problem at hand and to other examples of the same problem

Odili (2006) also noted that, many things could be learnt about the process of problem solving by studying the characteristics of successful and unsuccessful problem solvers are:

1. Successful problem solvers founder less; they are more decisive in choosing where to start.
2. They focus more on the problem to be solved rather than on some irrelevant aspects of the problem.
3. They perceive more clearly the implications and applicability of their knowledge to the problem at hand and are less confused by a change in wording or notation.
4. They exhibit a more active and vigorous process of research. Their approach is less passive, superficial, and impressionistic. They tend to apply solutions from previous problems less mechanical.

5. They tend to be more careful and systematic in their approach. Their efforts are less haphazard and less characteristic of guesswork.
6. They tend more to follow through line of reasoning to its logical conclusion. They are persistent and less distractible in their performance.
7. Their attitudes toward the value of reasoning are more positive and less fatalistic.
8. They exhibit greater self-confidence in their ability to solve problems and are less discouraged by complexity.
9. Their approach to problem solving is more easily negative transfer effect of an interfering set.

Canter (2004) observed that a problem solving model is a systematic approach that reviews students' strengths and weaknesses, identifies evidence-based instructional interventions, frequently collects data to monitor student progress and evaluates the effectiveness of interventions implemented with the student. Problem solving is a model that first solves student difficulties within general education classrooms. If problem solving interventions are not successful in general education classrooms, the cycle of selecting intervention strategies and collecting data is repeated with the help of a building-level or grade level intervention assistance or problem solving team. Rather than relying primarily on test scores, the students' response to general education interactions becomes the primary determinant of his or her need for special education evaluation and services. He was of the view that although problem solving steps can be described in several stages. The steps essentially reflect the scientific method of defining and describing a problem, generating potential solutions and implementing, monitoring, and evaluating the effectiveness of the selected intervention.

Problem solving models have been implemented in order to reflect the unique features and needs of individual schools. However, all problem solving models share the following components:

- i. Screening and assessment that is focused on student skills rather than classification.
- ii. Measuring response to instruction rather than relying on norms referenced comparisons.
- iii. Using evidence-based strategies within general education classrooms
- iv. Developing a collaborative partnership among general and special educators for consultation and team decision making.

Olawoye (2006) included in his model provided a model framework in which to interpret measures of problem difficulty, three stages were included in his model.

1. Preparation and orientation: the students get the idea of what the problem involves.
2. Production: the consideration of alternative approaches to a solution and the subsequent generation of possible solutions.
3. Judgment: the determination of the adequacy of a solution and the validity of the approach used to arrive at the solution (Olawoye, 2006).

In this model, pre-production activity by the problem solver is just as important as the production stage, but little is known about the preparation stage because researchers have preferred to investigate problem situations, which are well defined for students.

Webb in Adeniran (2011) devised his model of problem solving. The model contains three stages.

1. Preparation: This includes defining and understanding the problem, understanding what is unknown, what is given, and what the goals are

2. Production: This includes the search for a path to attain the goals recall of principles, facts and rules to be used, development of hypotheses and alternative plans that may lead to one or more goal.
3. Evaluation: Includes checking sub-goals and the final solution; checking the validity of procedures used during preparation and production. This model is not a hierarchy model because preparation always comes before production which always comes before production which always must precede evaluation (Olawoye, 2006).

Adeniran (2011) combines the work of Polya with the work in artificial intelligence and his own experiences in psychology in forming his conceptualization of problem solving. His general problem solving method is appropriate for higher level problem in science, mathematics and engineering.

1. Drawing inference: Inference are drawn from the explicit or implicit information similar to inferences drawn from the same type of information in the past; the individual can also draw inferences about the properties in the goal, the givens, or inference from the goal and the givens.
2. Trial and error: this has three components
 - Random:it involves applying allowable operations to the givens with no definite order
 - Systematic:it is the systematizing of the sequences of actions.
 - Classificatory: involves organizing sequences of actions into classes that are equivalent with respect to the solution of the problem.
3. Getting out of loops: In this step the individuals make an analysis of what he/she has been doing and determine the attributes of his/her approach. What other general method or action could the problem solver use?
4. Incubation: The problem is put aside for a period of time.

5. Define Sub-goals: The problem is broken into parts or sub-goals and these sub goals are involved.
6. Contradiction: In this step, operations to the possible goals are applied in others to get to produce an impossible state.
7. Working backwards: the individual starts with the goal and tries to guess a proceeding statement or statements that would imply the goal statements.
8. View relations between problems: Two problems can relate to each other in one of five ways. These are unrelated, equivalent, similar, special case and generalization. In the use of mathematical representation, the two possible forms are symbolic and diagrammatic.

Adeniran (2011) outlined a problem solving sequence as follows:

1. The students identified the problem which needs an answer or solution
2. They define and delimit the problem
3. They collect data and other evidence which can aid them in solving the problem
4. The students proposed hypothesis(es) for the solution of the problem
5. They try out the proposed hypothesis(es)
6. They check the findings: If the solution supported, then the problem is solved. If it is rejected, the approach is revised and the process is repeated until a solution is obtained or they give up.

Ogundele (2005) highlighted the steps involved in George Polya's problem solving techniques. They are:

1. Understanding the problem. The students should comprehend the problem
2. Devising a plan to solve the problem. At this stage the teacher helps the students to gather relevant thought in solving the problem. The teacher can assist the students to get information on how to go about solving the problem

3. Carrying out the plan. At this stage the students do the necessary calculations to arrive at the answer(s)
4. Looking back. During the stage, the students reflect on the problem and the solution obtained. The students check for correctness of the problem.

For the purpose of this research, Polya's problem solving model was used and the researcher decided to use this model because most of the past researchers that used this model apply it in teaching science based subjects and mathematics, so she decided to apply this model to see its effects on the performance of secondary school students in financial accounting.

2.2.2 Concept of Cooperative Teaching Method

Cooperative teaching method is a method in which the teachers divide the students into groups for the purpose of working together to complete a common task. According to Huang and Su (2010) cooperative teaching method is an approach to group work that minimizes the occurrence of those unpleasant situations and maximizes the learning and satisfaction that result from working on a high performance team. A large and rapidly growing body of research confirms the effectiveness of cooperative learning in education.

Cooperative teaching is the structured, systematic instructional technique in which small groups work together to achieve a common goal (Adams, 2013). Cooperative teaching strategies in the classroom: positive interdependence, face-to-face interaction, individual accountability, social skills and group processing. Positive interdependence is the belief that students are linked together with other students in such a way that one cannot succeed unless the group members also succeed (Adams, 2013).

Face-to-face interaction is the expectation that students will explain to each other how to solve problem and individual accountability is a requirement of students to complete their share of the work (Adams, 2013). Individual accountability can become problematic for

educators when and if a portion of the students are not participating actively in the cooperative learning strategy. Social skills are also needed to accomplish mutual goals, students must know and trust each other, communicate effectively, and support and encourage each other (Adams, 2013).

In terms of effective social skills and cooperative teaching strategies, students need to be properly instructed as to how to communicate effectively within a group setting. Educators must monitor the communication dynamics within each group. Group processing enables group members to reflect on a group session to describe what actions of the group members were helpful and not helpful (Adams, 2013). Huang and Su (2010) opined that cooperative teaching method have demonstrated the ability to outperform teacher-centered strategies in the classroom. Cooperative teaching method has been well documented in the educational research as a successful pedagogy to improve students' academic achievement. It is a fundamental principle of cooperative teaching method that group members are linked together in such a way that they cannot succeed unless everyone succeed, they will actively assist each other to make sure that the assignment is done and the purpose of the group achieved (Anowar and Rohani, 2013).

Slavin (2005) observed that, there are several reasons why cooperative teaching works as well as it does. The idea that students learn more by doing something active than by simply watching and listening has long been known to both cognitive psychologists and effective teachers that cooperative teaching is by its nature an active method. Beyond that, cooperation enhances learning in several ways. Weak students working individually are likely to give up when they get stuck; working cooperatively, they keep going. Strong students faced with the task of explaining and clarifying material to weaker students often find gaps in their own understanding and fill them in. Students working alone may tend to delay completing

assignments or skip them altogether, but when they know that others are counting on them, they are motivated to do the work in a timely manner.

Cooperative teaching strategy is attracting worldwide attention of scholars. Cooperative teaching method is a method in which students work together in small groups to maximize their own and each other's learning. Cooperative learning is working together to achieve a joint goal. In cooperative learning strategy both high-ability and low-ability students work together to solve a problem (Johnson and Johnson, 2008). According to Umar (2015) cooperative teaching method is the method where students are placed in small groups and the group members are linked together in such a way that they cannot succeed unless every member in the group succeed. They assist and encourage the effort of each other to make sure that all the group members master the lesson in order to achieve their group objective. Cooperative teaching strategy is a teaching arrangement that refers to small groups of students working together to accomplish a shared goal (Umar, 2015). Students work together to learn and they are responsible for their teammates as well as their own learning. According to Johnson and Johnson (2008), there are five basic elements of cooperative teaching method

1. Positive interdependence - occurs when group members believe that they sink and swim together, that is their gains are positively associated.
2. Face-to-face interaction - occurs when the class is designed to allow students interactions during the learning period
3. Individual accountability - occurs when each member in the group is responsible for contributing a share of work towards the group success
4. Interpersonal and small group skills – occurs when there is trust-building, leadership, decision-making, communication, and conflict management skills among the group members

5. Group processing – occurs when the group members are discussing how well they are achieving their goals and maintaining effective working relationships

Cooperative teaching method improve positive attitude towards learning and establish social relations among the learners (Johnson & Johnson, 2008), in addition to high self-esteem and cohesiveness (Sahin, 2010). Cooperative method can be also stated in terms of instructional strategy in which students work together to achieve learning target (Abrami, Poulsen and Chambers, 2004). It is also presented by Polloway, Patton and Serna (2001) that the cooperative method when used as a teaching activity, improves motivation, class participation and academic achievement of students.

There are dozens of strategies that can be used by the teachers under umbrella of cooperative methods, some of them have gained more popularity than others, including; Student Team Achievement Division (STAD), Jigsaw II and Teams-Games-Tournaments (TGT). Essence of all cooperative learning activities is that in each case the students are divided in heterogeneous groups based on their learning capability, where they support each other for learning (Slavin, 2010).

Jigsaw II: It is a team activity, where one type of the members are responsible for mastering their own part of material, while experts are responsible for teaching their material to other members of the group. Only difference between Jigsaw I and II is that the expert takes test before returning to home group (Şahin, 2010). After this the scores of each member are produced on the basis of tests, and then accumulative score of whole team is calculated with reference of individual scores. The research has also supported usefulness of Jigsaw II method for improving academic performance of EFL learners (Gomleksz, 2007).

Student Team Achievement Division (STAD): This can be termed as most simple form of cooperative learning, where teacher give material to students and they learn it as group. The groups are test and scored individually and collectively, the team securing high scores is

termed as winning one. One strategy adopted during cooperative method as instruction approach is STAD. The research study carried out by Jolliffe (2005) reported its effectiveness for improving academic achievement and social skills.

Teams-Games-Tournaments (TGT):The students are divided in heterogeneous groups, where they play multiple games based on given instructional materials. The scores are given individually and collectively as well, however, only team scores are considered basis for winning and losing

For the purpose of this research, Student Teams Achievement division (STAD) model was used and the researcher used this model because most of the past researchers that used this model applied it in teaching science based subjects, languages and social studies, so she decided to apply this model to see its effects on the performance of secondary school students in financial accounting

2.2.3 Concept of Accounting in Secondary School

Book keeping and Accounting is part of the Business Studies Curriculum in the group of Vocational Students. The keeping of Accounting Books is essentially an art and the aims of those who study the subject are essentially utilitarian. This curriculum, which is the original work of the Comparative Education Study and Adaptation Centre (CESAC), is designed to meet these aims (Ezeani, 2013).

The curriculum designed for senior secondary school is comprehensive and broad based, aimed at broadening students' knowledge and outlook. Subjects offered in senior secondary school are in three groups; core subjects, vocational and non-vocational subjects. One of the vocational subjects is book keeping and accounts. Book keeping and accounts is one of the vocational electives that students are expected to offer from the list of elective subjects, the students are expected to offer minimum of one and maximum of three from the

list of elective subjects in group B and C to give maximum of eight or nine subjects (Basil, 2015).

According to West African Examination Council Chief Examiner (2004), accounting is the most popular subject that students offer among the vocational elective subjects. Other subjects in this category include Agriculture, Commerce, Computer Education, Clothing and Textiles, Food and Nutrition, Home Management, Technical Drawing, Fine Art and Music. Basil (2015) defined financial accounting as a service function designed to inform management and other interested parties like analysts, investors, creditors, shareholders, etc about the financial implications and their effects on the organization. From the forgoing, therefore, accounting can be said to be the language of business, it can be seen as a management tool, as accounting information provide the basis for planning, and initiating control measures.

According to Asaolu (2002), “Financial accounting is the process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial information of an organization to the users for objective assessment and decision making.” Basil (2015) defined financial accounting as the process of designing and operating an information system for collecting, measuring and recording enterprises transactions, summarizing and communicating the results of these transactions to users to facilitate making financial/economic decisions. Collecting and recording transactions, refers to double entry book-keeping, which consists of maintaining a record of the money value of the transactions of an enterprise. Communicating the results, refers to preparing final accounts and statements from the books of account (or any other system of recording) showing the profit earned during a given period and the financial state of affairs of a business at the end of that period.

Accounting data are processed into accounting information through the use of accounting principles and conventions. The accounting principles are known as “generally

accepted accounting principles”. They are the basic fundamentals which guide accountants in recording, appreciating and accessing accounting information as well as the preparation and interpretation of financial statements. The accounting information system is proven, time honoured, and its format is universally understood. Books of accounts prepared by accountants in one part of the world are easily understood by their counterpart in other parts of the world because the information system is based on principles that are widely accepted and globally used (Ezeani, 2013).

Accounting, according to Flynn, and David (2000), is the art of recording, classifying and summarizing in a significant manner and in terms of money transactions and events which are, in part at best, of a financial character and interpreting the result thereof. The primary purpose of accounting is to help persons make economic decisions. Financial accounting information can be defined as the product of corporate accounting and external reporting systems that measure and publicly, disclose audited, quantitative data concerning the financial position and performance of publicly held firms (Bushman and Smith, 2001).

Hogget, Edwards, and Medlin (2008), viewed that financial accounting is concerned with reporting general- purpose information to users external to an entity in order to help them make sound economic decisions about the entity’s performance and financial position. The main aim of the Financial Accounting in senior secondary school is to build on the work that has been done in Book-Keeping at the Junior Secondary School and also provide the teacher with the framework within which the teaching is to take place. According to Ezeani (2013), the aims of Book-Keeping and Accounting in general are to provide:

- (a) Specialized instruction to prepare students for career in book keeping and accounting field;
- (b) Fundamental instruction to help students assume their economic roles as consumers, workers and citizens;

- (c) Background instruction to assist students in preparing for other professional careers requiring advanced studies in book keeping and accounting; and
- (d) Book keeping and accounting skills for personal use in future.

These objectives are geared towards making the students to appreciate the rules and functions of accounting, lay a sound foundation for further study of accounting at higher level and also assess candidates' knowledge of basic accounting principles and their application to modern business activities.

2.2.4 Concept of Students' Performance in Accounting

Performance of students has for long generated a lot of interest among educators, researchers, parents, government officials and the students themselves. Academic performance is defined according to Kobaland and Musek (2001) as performance on task with measures including comprehension, quality and accuracy of answers of tests, quality and accuracy of problem solving, frequency and quantity of desired outcome, time or rate to solution, time on task, level reasoning and critical thinking, creativity, recall and retention, and transfer of tasks.

Gouch (2009) viewed students' performance as the way and manner students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. In other words, it is the students' ability to study and remember facts and being able to communicate knowledge verbally or down on paper. Students' performance has to do with their ability to not only understand and assimilate facts, but to be able to recall the facts they have learnt in the future. According to Obidegwu (2008), the performance of learners depends to a large extent, on the quality of training received by teachers in test construction.

Azih and Nwosu (2011) reported that the performance of students of financial accounting is generally poor in examinations. They argued that the major reason for this poor performance is the use of lecture method in teaching the course which is skill oriented. The result of secondary school students in financial accounting in Nigeria as observed by the researchers are not encouraging. The poor performance of students in financial accounting at both secondary and tertiary institution levels is worrisome.

According to Ogunu (2015), poor academic performance has been identified as a problem in Nigeria secondary school public examinations. For example, analysis of percentage performance of candidates in accounting in West African Senior Secondary Certificate Examination for 1990, 1998, 1999, 2002, 2005, 2010, 2011 and 2012 is presented in Table 2.1

Table 1: Students' Performance in Accounting

Year	% Pass at credit level	% Fail
1990	48.79	51.21
1998	47.52	52.48
1999	41.62	58.38
2002	29.04	70.96
2005	13.91	86.09
2010	24.81	75.19
2011	30.90	69.10
2012	38.99	61.01

The poor performance of students in financial accounting is evident in the overall results of students in such examinations as the General Certificate in Education (GCE); Senior Secondary Certificate Examinations (SSCE) and National Business and Technical Examination Board (NABTEB) (Azih & Nwosu, (2011). The continuous failure of students in accounting examination could lead to loss of interest in the course. It is widely documented in literature that most teachers use mere lecture and explanation methods to teach skill related courses (Unongo, 2015). According to Oranu (2003), the lecture and demonstration teaching methods are regarded as conventional teaching methods which are content driven and

certainly not learner centered. Conventional teaching methods are predominantly used for instructional delivery in Nigerian secondary schools

Uwameiye and Ogubameru (2008) blamed the problem of poor performance in accounting on the accounting teachers' insensitivity to the nature of financial accounting when planning instructional activities in the classroom. According to them, financial accounting is not one of the subjects that can be mastered by mere memorization of the basic rules. It requires total determination, sound theoretical knowledge and intensive practice in application.

The traditional methods of teaching financial accounting such as the discussion method, demonstration method, Socratic Method and project methods have been used but failed to impact the necessary knowledge and skills comprehensively. Okon (2002) equally believes that these traditional methods are not challenging enough to the needs of the students. Considering the fact that financial accounting is a numerate subject which is gender sensitive. Azih and Nwosu (2011) opined that the increasing level of poor performance of students in financial accounting calls for a need to ascertain a teaching method that will improve the performance of students in financial accounting irrespective of the gender of the students.

2.3 Problem-Solving Teaching Method on Performance of Secondary School Students in Subjects Other Than Accounting

Problem solving as a method of teaching may be used to accomplish the instructional roles of learning basic facts, concepts, and procedure, as well as goals for problem-solving. Learning by experimentation or doing is more lasting. In problem-solving teaching method, teacher acts just as facilitator, rather than a primary source of information or dispenser of knowledge. The problem solving is how to learn independently. It is the most convenient approach to achieve the aims of teaching and learning process (Ali 2010). According to

Herrid, (2003) in present era problem-solving teaching method is extensively used nearly in all areas including mathematics and was first implemented in medical education in 1950s. When we examine the related literature, it is seen that research studies focused on the use of problem-solving teaching method in elementary, secondary and higher education have been reached by 1980s (Lambros,2002).

Roh (2003) argued that within problem-solving teaching environments, teachers' instructional abilities are more critical than in the traditional teacher-centred classrooms. Beyond presenting knowledge to the students, teachers in problem-solving teaching environments must engage students in marshalling information and using their knowledge in applied sand real settings In the study carried out by Adeyemi (2008) on the effects of problem solving and cooperative teaching strategies on Junior Secondary students' achievement in social studies, the findings showed that students exposed to cooperative learning strategies performed better than their counterparts in the other groups. The results of the study also indicated that the effect of teaching strategies was gender sensitive. He suggested in his study that problem-solving teaching method could be employed to effect change in the attitude of student toward social studies. Based on this suggestion therefore, it is possible that a generalized problem-solving teaching method (containing the commonly agreed phase) in social sciences which could be applied successfully in teaching problem-solving in different social sciences discipline may as well facilitate students' performance in social studies.

The result of the study conducted by Abdul-Raheem (2012) revealed that problem-solving method of teaching Social Studies is highly effective. The improvement in the level of achievement of students in the experimental group was as a result of the treatment (problem-solving method). He then concluded in that problem-solving method is more effective than conventional lecture method in improving students' achievement in Social Studies and that the use of the problem-solving method is the solution to the dwindling performance of students in Social Studies.

Doghonadze and Gorgiladze (2008) in their study on problem solving in teaching foreign languages to students of pedagogical departments concluded in their findings that realization of the problem solving in foreign languages teaching is a time-consuming process both on the teacher's (planning, materials selection) and the learner's (arriving at solution) part. They also found out that it takes more time to come to conclusions totally independently or under teacher's tactful guidance than through traditional explanation and that it is an intellectually demanding approach for both teachers and learners.

Adeniran (2011) carried out a study on effects of two problem solving approaches on senior secondary school students' performance in physics in Kwara state. Findings of his study indicated that the physics specific problem solving approach and target task approach enhanced the performance of the students better than the control. Also the findings from his work showed that gender did not have any effect on the performance of the students taught using target task approach in the optics performance. Bawa (2011) carried out a study on the effects of problem solving instructional strategy on academic achievement and retention in ecology among secondary school students with different cognitive preferences in Zaria

Educational Zone. The study found out that Problem Solving Instructional Strategy has positive effects on students' performance in ecology.

Iliyasu (2011) conducted a research on effects of problem solving method on mathematics and attitude among federal colleges of education students in Kano and Zaria. The findings of his study showed that students learn mathematical concepts better when exposed to problem solving method. The study also found out that male students exposed to problem solving teaching method performed better in mathematics than those exposed to lecture method. In the study carried out by Ali (2010) on effect of using problem solving method in on the achievement of mathematics students, the findings revealed that students taught using problem solving teaching method performed better than those taught using traditional method. He proved in his study that problem-solving teaching method is more effective method of instruction for teaching and learning mathematics as compared to traditional (lecture) method of teaching. Therefore the teachers of mathematics should use problem solving method to improve the academic performance of the students.

2.4 Effects of Cooperative Teaching Method on Performance of Secondary School Students in Subjects Other Than Accounting

The cooperative teaching method is designed to place the learners at the forefront of the learning process by transforming the teacher into a facilitator who monitors the students' learning and provides necessary assistance to enable them to achieve their learning objectives (Van Wyk, 2010). Numerous studies examined the effectiveness of cooperative teaching method on students' academic achievement and attitude towards learning.

Yamarik (2007), in his experimental study, reported that the students taught economic using cooperative teaching approach achieved a better learning outcomes in terms of their exam score compared to those taught using traditional lecture method. This finding is in line with Van Wyk (2010) who studied the impact of Student Team Achievement Division

(STAD) technique of cooperative teaching on 110 University students' economic literacy. The findings showed that cooperative teaching strategy had a significant impact on students' achievement in economics. In the same vein Van Wyk (2013) reported that cooperative teaching strategy improved students' knowledge of contemporary economics issues at the secondary school level when compared to conventional teaching approach.

Olorukooba (2001) investigated the relative effects of cooperative and traditional teaching methods on the performance of senior secondary school chemistry students. The research findings revealed that students in the experimental group performed significantly better than those in the control group. Hence cooperative method was found to be more effective than lecture method. The result of the study in comparing the effects of cooperative and traditional teaching methods also revealed that there was no significant difference between the academic achievements of the boys and girls taught using cooperative instructional method.

Wachanga and Mwangi (2005) examined how cooperative teaching method affected students' achievement in Chemistry and they revealed that students taught Chemistry using cooperative teaching method performed better in their academic achievement than those taught using routine approach. Also, gender did not affect the students' achievement. Cooperative teaching method without competition improves students' achievement in chemistry while cooperative method with competition enhances students' attitude towards chemistry. Hence cooperative teaching is appropriate in teaching chemistry to secondary school students (Ibraheem, 2011). On the other hand, Oludipe and Awokoy (2010) reported that the chemistry anxiety of students exposed to cooperative teaching approach was drastically reduced compared to those exposed to conventional teaching approach. The study investigated the effect of cooperative teaching approach on Secondary School students'

anxiety for learning chemistry using quasi-experimental design with 120 students randomly assigned to experimental and control groups.

Olarewaju (2012) carried out a research on effects of cooperative teaching method on academic achievement and retention of biology concepts among Pre-national Diploma students in Kaduna State, Nigeria. , The findings from the work showed that cooperative teaching strategy have positive influence on general academic performance of students and to some extent excel in neutralizing the influence of gender related differences in the learning of science. Parveen and Batool (2012) carried out the experimental study using pretest posttest control group design with 36 students to investigate the effects of cooperative teaching on students' achievement in General Science. The results of their investigation disclosed that cooperative teaching approach had a positive influence on general science achievement of 9th grade students. The findings are consistent with Ajaja and Eravwoke (2010) who reported that cooperative teaching approach had positive effects on students' achievement and attitude towards integrated science. Nonetheless, no significant difference was observed between achievement test scores of male and female students in the cooperative group.

Aziz and Hossain (2010) compared the effects of cooperative teaching method and conventional teaching on students' achievement in secondary mathematics. The findings showed that cooperative teaching style is more effective in promoting students' achievement in mathematics. Hossain and Ahmad (2013) also embarked on a study to examine the effects of cooperative method on students' mathematics achievement and attitudes towards mathematics. They found that cooperative method had a positive impact on students' achievement in mathematics as well as attitudes towards mathematics.

Iqbal (2004) conducted a study that examined the effect of cooperative teaching method on academic achievement on secondary school students in the subject of mathematics; he reported that there was a significant difference between the achievement

scores of the students taught by the cooperative and traditional method. The students who were taught by the cooperative method show high scores. Effandi (2003) embarked on a study to determine the effects of cooperative teaching method over the conventional teaching method in matriculation level mathematics. He found cooperative teaching method improved students' achievement in mathematics and attitudes towards mathematics. He concluded that utilization of cooperative learning method is a preferable alternative to traditional instructional method.

Gokkurt, Dundar, Soylu, and Akgun (2012) investigated and determined the effects of learning together technique of cooperative teaching method on 9th grade students' mathematics achievement. Their analysis of pre-test and post-test score showed a significant difference between the experimental group which learning together was applied, and control group which conventional method was applied in favor of experimental group. Their results are consistent with Conring (2009) in his quasi-experimental study that examined the effects of cooperative teaching method on mathematics achievement of 2nd - grade students in Northwest Georgia. The study's findings showed a significant difference between the mean achievement scores of 2nd grade students that were taught mathematics using cooperative teaching strategies and those that were taught with traditional teaching method in favor of cooperative learning group. He concluded that cooperative teaching strategy is appropriate for teaching mathematics to second grade students. Muhammad (2010) agreed that a significant relationship exists between the mathematics learning outcomes of students and the cooperative learning. Cooperative teaching strategy influenced students' achievement in mathematics.

The result of the study carried out by Anowar and Rohani (2012), showed that cooperative teaching method had significant effects on mathematics achievement and students' attitudes towards mathematics. It was found that students' performance in

mathematics and attitudes towards mathematics were affected by exposure to the cooperative method. Vaughan (2002) examined the effects of cooperative teaching method on the achievement and attitudes towards mathematics of a group of fifth graders. The students participated for twelve -weeks in cooperative teaching method in mathematics. The analysis of pre- and post-test scores revealed positive changes in attitudes and achievement. Other studies had similar findings showing that cooperative method produces positive effect on mathematics achievement and improves students' attitudes towards mathematics.

In the study carried out by Zakaria (2013) the result of his findings revealed that cooperative teaching method increases mathematics achievement and enhances understanding and self-confidence than the traditional teaching methods. He further noted that incorporating cooperative teaching method in the mathematics classroom would enhance the teaching and learning of mathematics in secondary schools. The cooperative teaching method has the element of accountability and interdependence embedded in a structure that is not found in the traditional classroom

Adeyemi (2008) considered cooperative teaching method as the most suitable teaching method for teaching social studies hence it should be preferred. He also observed from the result of his findings that cooperative teaching method improved teaching ability of boys and girls depend on the exposure of many teaching methods. Therefore if we want to improve secondary school boys and girls teaching ability, we have to embrace cooperative teaching method in our schools. Omosehina (2003) investigated the effects of cooperative teaching method on training programme of pre-service teachers' class room practice students' learning outcome in social studies. It was the conclusion of all these studies that cooperative teaching method seems more useful than other teaching methods.

In the study carried out by Babatunde (2008) on the effects of cooperative teaching and problem solving strategies on Junior Secondary students' achievement in social studies,

the findings showed that students exposed to cooperative teaching strategies performed better than their counterparts in the other groups. The results of the study also indicated that the effect of teaching strategies was gender sensitive. Majoka, Khan, and Shah (2011) compared the effect of cooperative teaching and traditional approach of teaching on 7th class students' academic achievement in social studies. They found that the mean performance of students instructed with cooperative approach outscored the mean performance of students instructed with conventional approach. The findings also revealed that, cooperative method has effect on all learning abilities which are; high, average, and low achievers.

Additionally Kousar and Perveen (2003) has presented in two separate studies on 7th and 8th graders in 2003 that students who were taught social studies with cooperative teaching method have scored high grades than others. The results indicate that cooperative teaching method when using as instructional strategy has positive effect on students' academic achievement. Similar results has been given by Melihan and Sirri (2011) who accomplished that cooperative teaching method is more effective in comparison to traditional methods for improving academic achievement. Sambo (2003) conducted an experimental study with same objectives and presented that the mean score of experimental group was better than control group; conditionally the results are not influenced by external factors. The core ingredient of cooperative teaching is that students work in a group, trying to achieve shared target, thus adding value to the success of group.

Bibi (2002) carried out his research by using cooperative teaching method for improving performance of secondary school students in English, the results was positive. Similarly, study carried out by Arbab (2003) for two weeks on general science students also proved that students taught with cooperative teaching method has improved results than control group. Motaei (2014) investigated the effect of cooperative approach on General English achievement of students. He identified that, in all four components of English

measured in the study which are dictation, reading, grammar, and vocabulary, the performance of experimental group was significantly better than the performance of control group. The result also showed that students prefer cooperative model because they are given chance to participate in learning process and solve their own problems through discussion with their colleagues.

Evcim and İpek (2013) studied the effects of Jigsaw II model, one of the techniques of cooperative teaching on students' achievement in English. Similar to Motaei (2014), they found that there was a significant difference between the experimental and control group in terms of their performance. The experimental group outperformed the control group. Wang (2009) applied Slavin's principles and techniques of cooperative teaching to a college EFL conversation class. He found that cooperative teaching technique improves student's linguistic and conversational competence. In a related study, Azizinezhad, Hashemi, and Darvishi (2013) applied cooperative model in English as a foreign language classes to enhance the students' language learning. Their investigation revealed that cooperative method had positive effects on students' language acquisition and the approach is motivating students towards learning English. They finally concluded that the approach to be integrated as part of the Curriculum of English instruction.

2.5 Financial Accounting in Teaching Methods Other Than Problem-Solving Teaching Method and Cooperative Teaching Method

It is widely documented in literature that most teachers use mere lecture and explanation methods to teach skill related courses (Unongo, 2015). According to Oranu (2003), the lecture and demonstration teaching methods are regarded as conventional teaching methods which are content driven and certainly not learner centered. Conventional teaching methods are predominantly used for instructional delivery in Nigerian schools including colleges of education. Okon (2002) equally noted that conventional teaching

methods are not challenging enough to the needs of the students. Conventional methods of instruction which are sometimes referred to as “one-way communication” methods of instruction are widely used in schools. When this method is used, the teacher does most of the talking, and the students more often assume a passive role which makes learning ineffective. Hence, Barnstein (2006) stated that effective teaching methods are meant to be as interactive as possible, emphasizing small group work using relevant and practical case studies.

Brooner (2000) in his own contribution suggested two approaches to the teaching of accounts. These are “specialist approach” and the “generalists approach”. The “specialists approach” focuses attention of the teacher on producing professionals in accounting while the generalist view believes that accounts should be taught as a language of business to meet the needs of those who study it for personal use. Igboke (2000) identified the following methods of teaching book-keeping and accounting: teaching by induction and teaching by questioning. He explained the induction method as approach that can underlying principles roles discovered are better understood and remembered than rules explained and consequently memorized. The approach allows the students the opportunity of discovering the rules underlying the treatment of certain transactions; while he describes teaching by questioning as the best approach to teaching since it stimulates the student into thinking.

The success of any method depends on the ability of the teacher to select the right methods that suits the subject matter he wants to teach. People differ in many ways like interest, ability and skills Thus, this should be considered in the selection of teaching methods by the teacher (Ezegwui, 2014). In the same vein, Nwakoha (2000) noted that the contribution of accounting to the training of students for the world of work depends on how it is taught. Hence, the teacher is expected to select the appropriate method(s) that suits his unit of instruction.

In the study carried out by Callistus (2015) on effects of computer assisted instructional technique on students' achievement in financial accounting in colleges of education in southeast Nigeria. The findings of this study showed that NCE III students of financial accounting that were exposed to computer assisted instructional method had higher achievement and gain score in financial accounting achievement test than their counterparts that were exposed to conventional lecture method.

Basil (2015) investigated on the effects of constructivist teaching methods on students' achievement in financial accounting. The result of the findings showed that the use of constructivist teaching method has a significant positive effect on the mean achievement score of financial accounting students in Owerri education zone. The result from the findings also revealed that the effect of gender on achievement in Financial accounting achievement test was not significant.

Carrasco *et al.* (2010) demonstrate the effectiveness of active participation methodologies (project-based learning and activity-based learning) to improve the students' performance in the subject Financial Accounting. Similarly, the results of the work of Mateos and Marín (2009) show a remarkable correlation between the academic results obtained by students in the subjects of Accounting and their participation in active methodologies of problem-based learning through the intensive use of information and communication technologies (ICT). In the same line, López *et al.* (2011) showed that the undertaking activities on the web by Financial Accounting students had a positive impact on their results. On the other hand, the work of Bernabé *et al.* (2010) evidences that the introduction of new evaluation instruments results in an improvement of the marks obtained by students in the subject Financial Accounting.

2.6 Review of Empirical Studies

Several studies have been carried out on problem solving by researchers in different fields which in one way or the other have some similarities with the present study and some of these studies are reviewed here.

Olarewaju (2012) carried out a research on effects of cooperative learning on academic achievement and retention of biology concepts among Pre-national Diploma students in Kaduna State, Nigeria. The study was carried out in all Federal Agriculture and Technical Colleges offering pre-ND biology in Kaduna state of Nigeria. From the population of 149, only 100 students were selected for the study. The instrument used for the study was Biology Achievement Test (BAT). The researcher adopted Student Team Achievement Division (STAD) model of cooperative learning for her study. In light of the above presentation, it is glaring that cooperative learning strategy have positive influence on general academic performance of students and to some extent excel in neutralizing the influence of gender related differences in the learning of science.

Adeniran (2011) carried out a study on effects of problem solving approaches on senior secondary school students' performance in physics in Kwara state, Nigeria. The study covered secondary schools in Kwara south senatorial district of Kwara state. Only SS2 physics students were used for the study. The performance tests used for the study were Optics Performance Test (OPT) and Problem Solving Attitude Test (PSAT). Three research instruments used were Physics Specific Problem Solving, Target Task and Conventional Lecture Approaches. Findings of his study indicated that the physics specific problem solving approach and target task approach enhanced the performance of the students better than the control. Also the findings from his work showed that gender did not have any effect on the performance of the students taught using target task approach in the optics performance. He

finally recommended among others that teachers should expose those students to the heuristic of the problem solving approaches and emphasis of the teacher should shift from teacher centered approach of teaching to the use of problem solving approach.

Bawa (2011) carried out a study on the effects of problem solving instructional strategy on academic achievement and retention in ecology among secondary school students with different cognitive preferences in Zaria Educational Zone. His study covered Sabon Gari and Zaria Local Government Area of Kaduna state. Only four (4) secondary schools participated in the study. The instruments used for the study were Cognitive Preference Test (CPT) and Ecology Achievement Test (EAT). The study found out that Problem Solving Instructional Strategy (PSIS) have positive effects on students' achievement in ecology. The researcher recommended that the use of problem solving instructional strategy (PSIS) in teaching different science subjects in schools should be encouraged by all stakeholders in science as a whole and science education in particular. It was also recommended that there should be adequate literature on PSIS available to school. This will help the students and teachers to be more informed on how to use PSIS in teaching and learning ecology concept specifically and biology generally.

Iliyasu (2011) conducted a research on effects of problem solving method on mathematics and attitude among federal colleges of education students in Kano and Zaria. Only NCE 2 mathematics students in the two institutions participated in the study. The instruments used were Attitudinal Mathematics Questionnaire (AMQ) and Mathematics Achievement Test (MAT) for the study. The findings showed that students learn mathematical concepts better when exposed to problem solving method at NCE level. The study also found out that male student exposed to problem solving teaching method performed better in mathematics at NCE level than those exposed to lecture method. It has recommended among others that problem solving instructional method should be encouraged

to be used by NCE mathematics teachers and that provision of in-service training such as workshops and conferences need to be made to train the teacher on the use of problem solving method for improvement of performance of mathematics students at NCE level.

Ozgeean and Yesdan (2010) examined the effect of cooperative learning on students' understanding of reaction rate in 11th grade chemistry course. 110 students participated in the study. The participants were included. One of the classes in each school was randomly assigned as a control group instructed by the traditional way and the other as an experimental group instructed by cooperative learning. Reaction Rate Control Test (RRCT) was given to measure students' understanding of reaction rate. In addition, Science Process Skill Test (SPST) was administered before instruction to decide whether there was a significant difference between two groups in terms of their science process skill. At the end of the instruction, there was a significant difference between the experimental and control group students' performance. The study adopted one way ANOVA in the analysis of data. According to the results of RRCT and interviews, cooperative learning removed most of students' misconception about reaction rate compared to traditional instruction. The finding is central to the corpus of this research.

In the study carried out by Babatunde (2008) on the effects of cooperative learning and problem solving strategies on Junior Secondary students' achievement in social studies in Ife Central local Government Area of Osun State, Nigeria. The study made use of 150 students comprises of 80 boys and 70 girls using stratified cluster sampling from the three public secondary schools at Ife. The findings showed that students exposed to cooperative learning strategies performed better than their counterparts in the other groups. The results of the study also indicated that the effect of teaching strategies was gender sensitive. The recommendation for the study among others are; the government should equally provide avenue for students in order to interact freely with each other the idea of limiting the students

to only conventional teaching method should be discouraged and teachers should encourage team work among students in order to work together cooperatively.

Olorukooba (2001) investigated the effects of cooperative learning on students' performance and retention of concept in chemistry. In this study, 264 students were drawn from six senior secondary schools in Zaria metropolis of Kaduna state. Students were classified into experimental (N=137) and control (N=127) group. The experimental group was taught using cooperative learning method and control group was taught using lecture method. The research findings revealed that the students in the experimental group performed significantly better than those in the control group. Hence, cooperative learning was found more effective than lecture method.

The current study is different from the studies reviewed because the researcher applied problem-solving teaching method in teaching financial accounting, the past researchers based there studies on mathematics and science based subjects. Most of past researchers carried out their studies on either cooperative learning approach and lecture method or problem solving learning approach and lecture method. The current study combines problem solving approach and cooperative learning approach. Location where the current research will be carried out is also different from where the past researches have been carried out.

2.7 Summary of Reviewed Literature

This study is designed to investigate the effects of problem-solving and cooperative teaching methods on academic performance of students in financial accounting in secondary schools in Kaduna State. Related literatures were reviewed on theoretical framework in which the theories were explained and their relationships to the current study were also analyzed. Various concepts were discussed under conceptual framework and models of

cooperative method and that of problem-solving method were reviewed. In this same chapter, nature and objectives of senior secondary school financial accounting curriculum and students' performance in financial accounting were reviewed.

The literature reviewed showed that several studies have been carried out on problem-solving and cooperative teaching methods which were conducted in sciences, social studies, languages and mathematics. From the literature reviewed, it was discovered that the past researchers used problem-solving and cooperative teaching methods separately; none of the researchers combined these two methods in their research work. This research was conducted on financial accounting at secondary school using multi-constructivism teaching approach that is problem-solving and cooperative teaching methods to see which of them yielded better result or otherwise on teaching and learning of financial accounting at secondary school level.

It was also observed that the studies carried out on problem solving approach and cooperative learning approach, were carried out mostly in science subjects, mathematics and social studies. This type of study is relatively new in financial accounting more especially at secondary school level. Therefore, this study was adopted to fill this gap.

CHAPTER THREE

Research Methodology

This chapter described the methodology that employed in this study under the following sub headings:

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

This study was carried out using a quasi-experimental research design. In a quasi-experimental design, the researcher lacks control over the assignment to conditions and/or does not manipulate the causal variable of interest. It also identifies a comparison that is as similar as possible to the treatment group in terms of baseline (pre-intervention) characteristics. This research design was adopted by Yusuf (2013). The reason why this study adopted quasi experimental design was because the study did not involve the use of laboratory where the researcher has total control over the experiment. This study employed three instructional approaches, these include; problem-solving teaching method, cooperative teaching method and conventional(lecture) method. These instructional methods were used as treatment at the gender level male and female and student's cognitive level of low, average and high.

3.2 Population for the Study

The population for this study comprises of one thousand, five hundred and nine (1509) students from twenty eight (28) co-educational public secondary schools offering

financial accounting in Kaduna state for 2015/2016 academic session. Table 3.1 shows the breakdown of the population for this study.

Table 2: Population for the Study

S/No	Name of School	Male	Female	Total
1.	Govt. Comm. College ,Makarfi	60	38	98
2.	Alhuda Huda College, Zaria	8	6	14
3.	Commercial College, Zaria	63	46	109
4.	Govt. College Kaduna	33	20	53
5.	G.S.S. Rigasa Kaduna	46	20	66
6.	Kaduna Capital Sch.	60	30	90
7.	G.S.S. Kargi /Wada, Kaduna	11	5	16
8.	G.S.S. Kudende Kaduna	39	9	48
9.	G.S. S. Goni Gora, Kaduna	43	8	51
10.	G.S. S. Korontsohuwa	10	3	13
11.	G. S. S. Dualla-tarfa	34	12	46
12.	G. S. S. Maraba Rido	28	10	38
13.	G S. S. (Snr) Nasarawa	44	29	73
14.	G.S.S.(Snr) Kakuri, Kaduna	12	14	26
15.	G.S. S. Bagado	13	4	17
16.	G. S. S. Gwa-Gwada	20	8	28
17.	G. S. S. Sabo-Tasha	56	32	88
18.	G. S. S. Television	36	24	60
19.	G. S. S. Kujama	30	11	41
20.	G. S. S. Gidan Waya	35	11	46
21.	G.S.S. (Snr)GodoGodo	46	29	75
22.	G. S. S. Wasa Station	29	12	41
23.	G. S. S. Awon	18	9	27
24.	G. S. S. (Snr) Kachia	51	16	67
25.	G. S. S. Gumel	34	13	47
26.	G.S.S. (Snr) Kubacha	46	22	68
27.	G. S. S. Kagoro	43	31	74
28.	Tafawa Balewa Memorial College (TBMC) Samaru Kataf.	46	43	89
TOTAL		994	515	1509

Source: (Ministry of Education and science and technical Board, Kaduna, 2016)

3.3 Sample Size and Sampling Procedure

This research work adapted purposive sampling method in selecting ninety (90) students from one secondary school which is Kaduna Capital School from the population of 28 co-educational schools offering financial accounting in Kaduna State for 2015/2016 academic session. The researcher used simple random sampling (balloting method) in

grouping the students into three (3) Experimental group A (30), Experimental group B (30) and control group C (30). Table 3.2 shows the details.

Table 3: Sample Size.

S/No	Groups	Male	Female	Total
1.	Exp group A	20	10	30
2.	Exp group B	20	10	30
3.	Ctrl group C	20	10	30
	Total	60	30	90

3.4 Instrument for Data Collection

The instruments that were employed for collecting data in this study were Instructional Package for Financial Accounting (IPFA) and Financial Accounting Achievement Test (FAAT). FAAT tests were in two parts, the first was pre-test items which were made up of multiple choice objective questions with 10 items. Each multiple choice items consist of a stem, four options of one key and three distracters. Each correct answer attracted two marks, totaling 20 marks altogether. Pretest lasted for 15 minutes (See Appendix B). The second part of the FAAT was post-test (See Appendix D). This was administered to the students in 40minutes. The instrument consists of 30multiple choice items; each item consists of five options of one key and four distracters. Each correct answer attracted two marks, totaling 60marks.

3.4.1 Validity of the Instrument

Financial Account Achievement Test (FAAT) was subjected to scrutiny and vetting by the researcher, supervisors and other research experts in the department of vocational and Technological Education and Institute of education, Ahmadu Bello University, Zaria not below the rank of senior lecturer and qualification of Ph.D. Suggested modifications on the test items were effected before the instrument was administered. This was in agreement with

Emmanuel (2013), who stressed that the needs and significance of establishing the validity of research instrument must be done before administration

3.4.2 Pilot Study

In order to establish the reliability of the Financial Accounting Achievement Test (FAAT), a pilot study was conducted using 35 of the SS2 students of Government Secondary School Kulende Ilorin, who were not part of the population for the study.

3.4.3 Reliability of the Instrument

The researcher determined the reliability of the Financial Accounting Achievement Test (Test and re-test) using the result which was gotten from the pilot study. The result obtained was subjected to statistical analysis in order to establish the reliability co-efficient of the instrument. A reliability co-efficient of $r = 0.79$ was obtained using Pearson Product Movement Correlation Co-efficient. This showed that the instrument was reliable and could be used for data collection in the study.

3.5 Procedure for Data Collection

The researcher visited the school she used for the study in order to seek for the permission from the appropriate authorities using letter of introduction from HOD VTE (Appendix A). The researcher carried out the research herself by using only one co-educational school in Kaduna. She divided the students into three groups using simple random sampling (balloting method). She taught the first group using problem-solving teaching method (Experimental group 1), the second group was taught using cooperative teaching method (Experimental group 2) and the third group with Conventional (lecture) teaching method.

The researcher used four weeks for the study, she taught the students one topic outside the study area in order to get familiar with the students for the first week and she administered pre-test to the students that same week. The researcher then taught the students

for two weeks (week2 and week3) and the fourth week (week 4), the researcher administered post-test. The researcher prepare lesson notes covering double period per week on the three methods of teaching that were used (problem-solving teaching method, cooperative teaching method and Conventional (lecture) teaching method) making six (6) lesson notes for the two weeks which was week2 and week 3 of the study.

The students were taught definition of manufacturing accounts; the classification of production cost and manufacturing terminologies in week2 and taught the students how to prepare manufacturing account and trading profit and loss account in the week3.

The experimental classes were taught using the problem-solving teaching method (Polya's model) and cooperative teaching method (STAD). The students were actively involved in the teaching process and they were taught with facts of concepts with little interaction with the teacher; they listened and assimilated the principles and procedures. By the fourth week, FAAT was administered to the students as post-test and the scores were recorded.

3.6 Procedure for Data Analysis

In analyzing the data collected. Bio-data were analyzed using percentage. The research questions were also analyzed using descriptive statistics (mean and standard deviation) at 50% and above. Research hypotheses were tested using PPMC and T-test.

Decision Rule

Decision rule for the research questions was that the pass mark was 50%. Where mean percentage was below 50%, it means low performance. A mean score of 50% and above was regarded as pass and a mean score below 50% was termed as fail. The Null hypotheses were rejected where the calculated t-value was greater than t-critical table value and accepted where the calculated t-value was equal or less than t-critical table value

CHAPTER FOUR

PRESENTATION AND ANALYSIS DATA

This chapter analyzes the data collected in the course of the study. This is done under the following sub-headings:

4.1 Answering to Research Questions

4.2 Testing of Null Hypotheses

4.3 Summary of Major Findings

4.4 Discussion of Major Findings

4.1 Answering of Research Questions

The result of the post-test was used to answer all the five research questions. The summary of each research question is as presented in tables 4 to 8.

Research Question One: what is the effect of problem-solving teaching method on academic performance of secondary school students in accounting in Kaduna State Nigeria?

Data collected to address research question one are summarized in Table 4

Table 4: Mean scores of post-test of secondary school students taught accounting using problem-solving teaching method

Method	N	Mean	SD	Bench mark
Problem solving	30	63.71	9.596	$63.71 \geq 50$ and above

Source: Field Survey, 2016

The result of students' performance taught using problem-solving is represented by a cumulative mean score of 63.71. The mean score recorded by the students is greater than the bench mark a priori expectation of this research put at 50 percent and above. It implies that there is evidence to show that problem-solving teaching method has effect on students' performance in accounting in Kaduna state.

Research Question Two: what is the effect of cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State Nigeria?

Data collected to address research question two are summarized in Table 5

Table 5: Mean scores of post-test of students taught with cooperative teaching method.

Method	N	Mean	SD	Bench mark
Cooperative	30	65.40	8.276	65.56 \geq 50 and above

Source: Field Survey, 2016

The cumulative mean score of students' performance taught accounting using cooperative teaching method was 65.56. This academic mean performance of students is higher than the set *a priori* bench mark of ≥ 50 and above which shows that cooperative teaching method can be effective in teaching accounting in secondary schools in Kaduna state.

Research Question Three: what is the difference between the effect of problem-solving teaching and cooperative teaching method on academic performance of secondary school students in accounting in Kaduna State Nigeria?

Data collected to address research question three are summarized in Table 6

Table 6: Mean scores of post-test of secondary school students taught using problem-solving teaching method and those taught with cooperative teaching method

Method	N	Mean	SD	Bench mark
Problem solving	30	63.71	9.596	64.56 \geq 50 and above
Cooperative	30	65.40	8.276	

Source: Field Survey, 2016

The result of students' performance taught using problem-solving and cooperative teaching methods is represented by a cumulative mean score of 64.56. The mean score recorded by the

students taught using cooperative methods (65.40) was higher than those taught using problem-solving (63.71), hence, the former being more effective than the later. Giving the fact that, the cumulative mean academic performance of students in accounting is greater than the bench mark *a priori* expectation of this research put at 50 percent and above, it implies that there is evidence to show that the use of the two teaching methods proved to be effect on students' performance in accounting in Kaduna state.

Research question four: what is the difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna State Nigeria?

Data collected to address research question four are summarized in Table 7

Table 7: Mean scores of post-test male students taught using problem solving method and those taught using cooperative learning method

Method	N	Mean	SD	Bench mark
Problem solving	12	64.12	10.131	65.37 \geq 50 and above
Cooperative	12	66.62	9.673	

Source: Field Survey, 2016

The result of male students' performance taught using problem-solving and cooperative teaching methods is represented by a cumulative mean score of 65. 37. The academic mean score achieved by the students taught using cooperative methods (66.62) was more than that of students taught using problem-solving (64.12). Hence, it proves that male students performed more effectively when taught with cooperative teaching method than using the problem solving teaching method. However, giving the fact that, the cumulative mean academic performance of the male students in accounting is greater than the bench mark *a priori* expectation of this research put at 50 percent and above, it implies that there is evidence to show that the use of the two teaching methods can be effective in teaching

accounting in secondary schools in Kaduna state to improve students' performance in accounting in Kaduna state.

Research question five: what is the difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of female secondary school students in accounting in Kaduna State Nigeria?

Data collected to address research question five are summarized in Table 8

Table 8: Mean scores of post-test of secondary school female students taught using problem-solving and cooperative teaching method

Method	N	Mean	SD	Bench mark
Problem solving	18	55.82	9.138	58.56 \geq 50 and above
Cooperative	18	61.30	8.276	

Source: Field Survey, 2016

The result of female students' performance taught using problem-solving and cooperative teaching methods is represented by a cumulative mean score of 58.56. The academic mean score achieved by the female students taught using cooperative methods (61.30) was more than that of the female students taught using problem-solving (55.82). Hence, it is an indication that female students performed more effectively when taught with cooperative teaching method than using the problem solving teaching method. However, giving the fact that, the cumulative mean academic performance of the female students in accounting is greater than the bench mark *a priori* expectation of this research put at 50 percent and above, it implies that there is evidence to show that the use of the two teaching methods can be effect in teaching accounting in secondary schools in Kaduna state to enhance students' performance in accounting in Kaduna state.

4.2 Testing of Null Hypotheses

The Null hypotheses were tested at 0.05 level of significance. The summary of the results are contained in Tables 9 to

Null Hypothesis One: problem-solving teaching method has no significant effect on academic performance of secondary school students in accounting Kaduna state, Nigeria.

Data collected to address hypothesis one are summarized in Table 9

Table 9: t-test analysis showing effect of Problem-Solving and Lecture Teaching Methods on students' performance in Principles of Accounting in secondary schools

Groups	N	Mean	SDDf	t-cal	t-cri	sig
Problem-solving	30	63.71	9.596			
	28	3.859	1.96	0.006		
Lecture Method	30	43.62	3.675			

Significant α at $p \leq 0.05$ level (2-tailed)

Table 9 shows the results of t-test analysis on effect of problem-solving teaching method and lecture method on students' performance in accounting. From the study finding it reveals that problem-solving is better than the lecture method. The t-calculated (3.859) is greater than the t-critical (1.96) at df 28. Similarly, the p-value of 0.006 is lower than α at $p \leq 0.05$ level of significance. The null hypothesis which states that problem-solving teaching method has no significant effect on academic performance of secondary school students in accounting Kaduna state, Nigeria is rejected.

Null Hypothesis Two: cooperative teaching method has no significant effect on academic performance of secondary school students in accounting in Kaduna state, Nigeria

Data collected to address hypothesis two are summarized in Table 10

Table 10: t-test analysis showing effect of Cooperative and Lecture Teaching Methods on students' performance in Principles of Accounting

Groups	N	Mean	SDDf	t-cal	t-cri	sig
Cooperative	30	65.408	276			
28	6.632	1.96	0.000			
Lecture Method	30	43.62	3.675			

Significant α at $p \leq 0.05$ level (2-tailed)

Table 10 shows the results of t-test analysis on effect of cooperative teaching and lecture methods on students' performance in accounting. From the study finding it reveals that cooperative teaching method is better than the lecture method. The t-calculated (6.632) is greater than the t-critical (1.96) at df 28. Similarly, the p-value of 0.000 is lower than α at $p \leq 0.05$ level of significance. The null hypothesis which states that cooperative teaching method has no significant effect on academic performance of secondary school students in accounting Kaduna state, Nigeria is rejected.

Null Hypothesis Three: There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students in accounting in Kaduna state, Nigeria.

Data collected to address hypothesis three are summarized in Table 11

Table 11: t-test analysis showing effect of Problem-Solving Teaching and Cooperative Teaching Methods on students' performance in Accounting in secondary schools

Groups	N	Mean	SDDf	t-cal	t-cri	sig
Problem-solving	30	63.71	9.596			
28	9.314	1.96	0.000			
Cooperative	30	65.408	276			

Significant α at $p \leq 0.05$ level (2-tailed)

Table 11 shows the results of t-test analysis on effect of problem-solving cooperative teaching methods on students' performance in accounting. From the study finding it reveals that cooperative teaching method is more effective than the problem-solving teaching

method. The t-calculated (9.314) is greater than the t-critical (1.96) at df 28. Similarly, the p-value of 0.000 is lower than α at $p \leq 0.05$ level of significance. The null hypothesis which states that there is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students in accounting in Kaduna state, Nigeria is rejected.

Null Hypothesis Four: There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna state, Nigeria.

Data collected to address hypothesis four are summarized in Table 12

Table 12: t-test analysis showing effect of problem-solving and cooperative teaching methods on performance of male secondary school students in accounting

Groups	N	Mean	SDDf	t-cal	t-cri	sig
Problem-solving	3064.12	10.131				
10	8.579	1.96	0.000			
Cooperative	3066.629.673					

Significant α at $p \leq 0.05$ level (2-tailed)

Study findings in Table 12 indicate that male students performed better in accounting when taught using cooperative teaching method (66.62) compared to their performance when taught using problem-solving (64.12) teaching method. The calculate t-value (8.579) was greater than the t-critical (1.96) and p-value (0.000) was lower than α at $p \leq 0.05$ level of significance. Therefore, the null hypothesis which stated that, there is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna state, Nigeria is rejected.

Null Hypothesis Five: There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of female secondary school students in accounting in Kaduna state, Nigeria.

Data collected to address hypothesis five are summarized in Table 13

Table 13: t-test showing difference between the effects of performance of female secondary school students taught accounting using problem-solving teaching method and those taught using cooperative teaching method

Groups	N	Mean	SDDf	t-cal	t-crit	sig
Problem-solving	3055.82	9.138				
Cooperative	3061.308.276					

Significant α at $p \leq 0.05$ level (2-tailed)

Study findings in Table 13 indicate that male students performed better in accounting when taught using cooperative teaching method (61.30) compared to their performance when taught using problem-solving (55.82) teaching method. The calculate t-value (6.112) was greater than the t-critical (1.96) and p-value (0.001) was lower than α at $p \leq 0.05$ level of significance. Therefore, the null hypothesis which stated that, there is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting in Kaduna state, Nigeria is rejected.

4.3 Summary of Major Findings

The study established that:

1. Problem-solving teaching method has effects on students' academic performance in financial Accounting in senior secondary schools in Kaduna state.
2. Cooperative teaching method has more effect on students' performance in financial Accounting in senior secondary schools in Kaduna state.

3. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students.
4. There was no significant difference between the mean performance of male students taught financial accounting using problem-solving teaching method and those taught using cooperative teaching method.
5. There was no significant difference between the mean performance of female students taught financial accounting using problem-solving teaching method and those taught using cooperative teaching method.

4.4 Discussion of Major Findings

Findings of the study showed that problem solving has effect on students' performance in financial Accounting. This finding is in line with Luntungan (2012) who reports that problem-solving teaching method has a significant effect on students' academic performance. On a final note regarding the subject, this researcher is of the strong belief that problem-solving has effects on students' performance in financial Accounting at senior secondary school. This is confirmed by the test of the null hypothesis one α at $p \leq 0.05$ level of significant. The result shown in Table 4 revealed that t-calculated was 0.006 which was greater than t-critical of 1.96.

The null hypothesis two was tested to determine the effect of cooperative teaching method on academic performance of students taught financial accounting α at $p \leq 0.05$ level of significant. This so because the t-calculated 6.632 was greater than t-critical of 1.96, thus the null hypothesis was rejected. The result showed that cooperative teaching method had effect on students' academic performance.

The t-calculated in Table 11 was 9.314 against the t-critical value of 1.96. The null hypothesis three tested at $\alpha p \leq 0.05$ level of significance was rejected. This analysis

showed that there is no significant difference existed between the performances of students taught with problem-solving teaching method when compared with the performance of students taught using cooperative teaching method.

Null hypothesis four was analyzed to compare whether there was difference between the male students' performance taught using problem-solving and cooperative teaching methods in financial Accounting in secondary school. The test of the null hypothesis and the results as shown in the table 12 was tested at $\alpha p \leq 0.05$ level of significance. From the analysis, the t-calculated 8.579 was greater than the t-critical 1.96. The result indicated that there is no significance difference between the male students' performance taught with problem-solving teaching method and those taught with cooperative teaching methods thus, the null hypothesis was retained.

Finally, the null hypothesis five was tested to determine the difference between the performances of female students taught financial accounting using problem-solving teaching method and cooperative teaching method. The hypothesis was tested using t-test α at $p \leq 0.05$ level of significance. The result as shown in the table 13 revealed that t-calculated was 6.112 was greater than t-critical of 1.96. Thus, the null hypothesis was retained. The result showed that cooperative teaching and problem-solving teaching methods had effect on students' performance.

These findings agreed with Luntungan (2012) who reported enquiry teaching methods had significant effects on students' academic performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter was presented under the following sub-headings:

- 5.1 Summary
- 5.2 Contribution to Knowledge
- 5.3 Conclusions
- 5.4 Recommendations
- 5.5 Suggestions for the Further Study

5.1 Summary

The major objective of the study was to assess the effect of problem-solving and cooperative teaching methods on students' performance in financial accounting in senior secondary schools, Kaduna state Nigeria. The study had five specific objectives; five research questions with five null hypotheses were formulated for the study. Literatures related to the study were reviewed in which six empirical studies were examined. From the empirical studies it was learnt that there were divergent views on what affected students' performance in general and in accounting particular.

The research design was a quasi-experimental research. The population for the study comprised One thousand Four hundred and Ninety-nine (1499) students from Twenty-eight State Colleges of secondary schools in Kaduna state, Nigeria. One mixed secondary school was purposely selected among the twenty-eight secondary schools with sample size of ninety students. Four weeks of teaching was carried out in the selected secondary school, which centered on Manufacturing Account. Post-test was administered in the fourth week of teaching exercise.

Instructional Package for Financial Accounting (IPFA) and Financial Accounting Achievement Test (FAAT) were used for collecting data for the study. IPFA was prepared for five weeks of lecture which involved problem-solving, cooperative learning and

lecture teaching methods. A principle of Accounting Achievement Test (FAAT) designed by the researcher was administered to secondary school students offering accounting in the fourth week of the teaching exercise. The data collected were subjected to analysis. The validity of the instrument was ascertained, and a pilot study was carried out. The reliability of the instrument was also determined and after the analysis of the data collected, all the null hypotheses tested were rejected.

5.2 Contribution to the Knowledge

1. Problem-solving teaching method has effect on students' performance in financial Accounting in senior secondary school with ($p \leq 0.001$).
2. Cooperative teaching method has effect on students' performance in financial Accounting in senior secondary school with ($p \leq 0.000$).
3. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of secondary school students in Accounting with ($p \leq 0.000$).
4. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of male secondary school students in accounting with p. value of ($p \leq 0.000$).
5. There is no significant difference between the effect of problem-solving teaching method and cooperative teaching method on academic performance of female secondary school students in accounting with ($p \leq 0.000$).

5.3 Conclusion

Based on the findings from the result of the analysis presented in chapter four, the following conclusions were drawn:

It was concluded that problem-solving and cooperative teaching methods are better and more effective in teaching and learning financial Accounting and this can enhanced secondary school students performance in financial Accounting. Also gender does not have effect on students performance both male and female can perform better when proper teaching methods are being used.

5.4 Recommendations

The following recommendations were made based on the findings of the study:

1. Secondary school teachers should be encouraged in using effective teaching method in the classroom, especially in the use of problem-solving and cooperative teaching methods in teaching financial Accounting in senior secondary schools.
2. Incentives such as scholarships, grants or loans should be made available by the government to research students and institutions to carry out more study on effective strategies in classroom instructions in general and particularly more study should be done on various techniques of problem-solving and cooperative teaching methods in teaching and learning process.

5.5 Suggestions for Further Study

The researcher recommends that research studies should be carried out in the following areas:

1. Impact of qualification and experience of accounting teachers and 100 level business education students' performance in principles of accounting.
2. Relationship between guided-discovery and problem solving teaching methods on business educations students' performance in principles of accounting.

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APPENDIX A



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

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VICE CHANCELLOR: **Professor Ibrahim Garba**, B.Sc (Hons) Geology, M.Sc (Mineral Exploration) ABU, Ph.D Geology (London), D.I.C., FNMGS
INTERIM HEAD OF DEPARTMENT: **Dr. Sani Ibrahim**, B.B.Ed, M.Ed, Ph.D (ABU)

Your Ref: _____
(M.ED/EDUC/41336/2012-2013)
New Number (P16EDVE8241)

Date: 22/06/2018

Letter of Identification

Dorcas Oluwakemi Ibitoye
(M.Ed/Educ/41336/2012-2013)(P16EDVE8241)

This is to certify that the above mentioned person is a Postgraduate student (M.Ed Business Education) in the Department. She is carrying out a research on **effects of problem-solving and cooperative teaching methods on academic performance of secondary school students in financial accounting in Kaduna State, Nigeria.**

Kindly give her every assistance she may require.

Dr. Sani Ibrahim
INTERIM HEAD OF DEPARTMENT

APPENDIX B

PRE-TEST QUESTIONS (WEEK 1)

1. ----- is the cost that can be traced to a particular production unit (a) direct labour (b) prime cost (c) factory overheads (d) direct expenses
2. Direct materials + direct labour + direct expenses is (a) production overheads (b) direct profit (c) prime cost (d) factory overheads
3. The expenses incurred while running the factory which cannot be traced to a particular production unit (a) production account (b) manufacturing account (c) factory overheads (d) prime cost
4. The statement that shows the presentation of the summary of assets and liabilities in a well-arranged form so that the financial position can be ascertained is (a) balance sheet (b) bank statement (c) cash statement (d) total asset and liability
5. The wages of employee who are directly engaged in the production process is called (a) direct expenses (b) direct material (c) direct wages (d) direct labour
6. Prime cost + factory overheads + work in progress is (a) factory account (b) manufacturing account (c) finished goods (d) production costs
7. Which of the following can be defined as partly goods or incomplete work (a) incomplete labour (b) finished goods (c) work in progress (d) production cost
8. ----- is the total expenditure incurred in the production output (a) production cost (b) factory overheads (c) prime cost (d) finished goods
9. Opening stock + purchases + carriage inward is (a) gross profit (b) cost of goods available for sales (c) net profits (d) cost of sales
10. Bad debts is treated as ----- in the trading, profit and loss account (a) expenses (b) net loss (c) income (d) gross profit

APPENDIX C

ANSWERS TO PRE-TEST QUESTIONS

1. B
2. C
3. C
4. A
5. D
6. C
7. D
8. A
9. B
10. A

APPENDIX D

POST-TEST QUESTIONS (WEEK 4)

1. In a manufacturing company wages paid to operation increase the value of (a) Turnover (b) Prime Cost (c) Gross Profit (d) Net profit (e) Overhead cost
2. Opening stock + purchases + carriage inward is (a) gross profit (b) cost of goods available for sales (c) net profits (d) cost of sales
3. Bad debts is treated as ----- in the trading, profit and loss account (a) expenses (b) net loss (c) income (d) gross profit
4. Prime cost consists of (a) Factory Overhead and cost of materials (b) Overhead cost and direct cost (c) direct expenses, direct labour, and direct materials (d) direct expenses and direct labour (e) cost of sales, factory cost and cost of raw materials
5. ----- is the cost that can be traced to a particular production unit (a) direct labour (b) prime cost (c) factory overheads (d) direct expenses
6. Which of the following is **not** charged to manufacturing account (a) Raw Materials (b) Factory Wages (c) Distribution Expenses (d) Direct Expenses (e) Royalties
7. Factory wages are always entered into the (a) Sales Account (b) Manufacturing Account (c) Profits and Loss Accounts (d) Purchases Account (e) Trading Account
8. A business which convert raw materials into finished goods prepares (a) Trading Account (b) Profit and Loss and Balances Sheet (c) Balance Sheet Only (d) Trading, Profit and Loss Account and Balance sheet (e) Manufacturing, Trading Profit and Loss Account and Balance sheet
9. Factory cost consists of (a) Direct Materials and factory overhead (b) direct labour and direct expenses (c) direct labour and factory overhead (d) Direct materials, direct labour, direct expenses and factory overhead (e) Direct expenses and factory overhead
10. Stocks can be categories into ___ under manufacturing Account (a) 3 (b) 1 (c) 2 (d) 5 (e) 4
11. The total of goods which have been used in the production of goods manufactured called (a) raw materials used (b) cost of materials consumed (c) cost of goods produces (d) work in progress (e) finished goods
12. WIP means (a) Work in Produced (b) Work in Production (c) Work in Progress (d) Work in Products (e) Work in Places
13. Direct materials + direct labour + direct expenses is (a) production overheads (b) direct profit (c) prime cost (d) factory overheads
14. The expenses incurred while running the factory which cannot be traced to a particular production unit (a) production account (b) manufacturing account (c) factory overheads (d) prime cost
15. ----- is the total expenditure incurred in the production output (a) production cost (b) factory overheads (c) prime cost (d) finished goods
16. Partly completed goods awaiting other process is (a) work in progress (b) work completed (c) work of goods (d) final goods (e) used materials

17. Completed goods awaiting for sales is ____ (a) Finished Loud (b) Finished goods (c) Fine goods (d) Final labour (e) Finished materials

18. Given : #

Prime Cost	220,000
Factory Cost	32,000
Work in progress at beginning	25,000
Work in progress at close	19,000
Administrative expenses	21,000

Determine the production cost (a) #296,000 (b) #277,000 (c) #258,000 (d) #246,000 (e) #294,000

19. Prime cost +factory overheads + work in progress is (a) factory account (b) manufacturing account (c) finished goods (d) production costs

20. Which of the following can be defined as partly goods or incomplete work (a) incomplete labour (b) finished goods (c) work in progress (d) production cost

21. The factory cost of goods produced is made up of (a) prime cost and factory overhead (b) prime cost and office overhead (c) raw materials consumed and fixed cost (d) raw materials and sales (e) raw materials and administrative overhead

22. The following information provided for Musa Company Limited, a manufacturer:

	#
Prime Cost	999,000
Manufacturing Overhead	132,000
Closing work in progress	75,000
Value of good transferred to the Trading Account	1,116,000

If included in the manufacturing overhead were rents of #5,000 paid in advance, what is the opening work in progress for the period (a) #85,000 (b) #80,000 (c) #70,000 (d) #65,000 (e) #82,000

23. The understatement of closing value of work in process would have the effect of (a)understating cost of goods manufactured (b) overstating prime cost of goods manufactured (c)overstating cost of goods manufactured (d) understating prime cost of goods manufactured (e) no effects

24. The statement that shows the presentation of the summary of assets and liabilities in a well-arranged form so that the financial position can be

ascertained is (a) balance sheet (b) bank statement (c) cash statement (d) total asset and liability

25. The wages of employee who are directly engaged in the production process is called (a) direct expenses (b) direct material (c) direct wages (d) direct labour

26. Given:

#

Direct material	10,000
Direct labour	5,000
Direct expenses	2,000
Factory overhead	4,000

What is the prime cost (a) #21,000 (b) #17,000 (c) #15,000 (d) #600
(e) #11,000

27. The difference between a trading account and a manufacturing account (a) has no particular period, the trading account has (b) does not consider the cost of goods involved, the trading account does (c) is concerned with the cost of production, the trading account is not (d) is not concerned with stock of raw materials, the trading is (e) does not consider prime cost, the trading account does.

28. Morality Manufacturing Company (Extract) Manufacturing Account

Direct material	#5,000
Direct labour	#4,500
Direct expenses	#3,000
Factory overhead	#2,500
Selling and Distribution	#1,500

Calculate the production cost (a) #16,500 (b) #15,000 (c) #14,000 (d) #12,500 (e) #11,500

Use the information below to answer questions 29 and 30

Raw materials inventory at the beginning of a period was #46,800 and at the close period there was a balance of #38,600. From the purchases made during the period, defective materials costing #9,200 were returned. Cost of materials consumed during period was #448,500.

29. What were the total purchases made during the period? (a) #487,100 (b) #457,700 (c) #449,500 (d) #440,330 (e) #445,400

30. What is the cost of raw materials available for use during the period? (a) #487,100 (b) #449,500 (c) #448,500 (d) #440,300 (e) 444, 300

APPENDIX E

Answers to Post-Test Questions

- 1 B
- 2 B
- 3 A
- 4 C
- 5 B
- 6 C
- 7 B
- 8 E
- 9 D
- 10 A
- 11 B
- 12 C
- 13 C
- 14 C
- 15 A
- 16 A
- 17 B
- 18 C
- 19 C
- 20 D
- 21 A
- 22 D
- 23 C
- 24 A
- 25 D
- 26 B
- 27 C
- 28 B
- 29 C
- 30 D

APPENDIX F

(LESSON NOTE ON PROBLEM-SOLVING TEACHING METHOD) WEEK 2

Name of Teacher	Ibitoye .D. Oluwakemi
School	Kaduna Capital School
Class	S.S 2
Average Age	16 years
Subject	Principles of Accounting
Topic	Manufacturing Account
Method of Teaching	Problem Solving Method
Duration	80 minutes (Double Period)
General Objective:	To teach students the meaning of manufacturing account, classification of cost of production and manufacturing terminologies.
Behavioural Objectives:	At the end of the lesson, the students should be able to: <ul style="list-style-type: none">a. define manufacturing accountb. state the manufacturing terminologiesc. classify cost of production cost
Instructional Materials	Visual material (real object with chalkboard)
Previous knowledge:	Students have been taught trading profit and loss accounts up to balance sheet which is the basis upon which the manufacturing account laid on.
Introduction:	The teacher introduces the lesson by reviewing the knowledge of trading account and relates it to the manufacturing account which is the new topic
Presentation:	The teacher will present her lesson through the following steps:
Step1:	The teacher asks questions on trading profit and loss account
Step2:	The teacher defines the manufacturing account and differentiates it from trading account
Step 3:	The teacher states and explains the manufacturing terminologies such as: stocks, Wages, Prime cost, Factory Overhead, Work-in-progress and Cost of materials Consumed

- Step 4: The teacher asks the pupils practical questions on step 2 and step 3 which require critical thinking for better understanding of the topic
- Step 5: The teacher states and explains the classification of cost of production that is direct cost and indirect cost
- Evaluation: The teacher asks the students the following questions in order to test the level of their understanding:
- a. What is Manufacturing Account?
 - b. Differentiate between Manufacturing account and Trading account
 - c. State and explain **Five** Manufacturing terminologies that you know
- Summary: The teacher briefly goes over the lesson stressing the important point from the topic taught
- Conclusion: The teacher concludes the lesson by giving the students assignments on the topic
- Reference Book: Comprehensive Financial Accounting Textbook for “A” level by Akintelure and Oguobi

APPENDIX G

(LESSON PLAN ON PROBLEM-SOLVING TEACHING METHOD) WEEK 3

Name of Teacher	Ibitoye .D. Oluwakemi
School	Kaduna Capital School
Class	S.S 2
Average Age	16 years
Subject	Financial Accounting
Topic	Manufacturing Account
Method of Teaching	Problem Solving Method
Duration	80 minutes (Double period)
General Objective:	To teach students the preparation of manufacturing account, trading profit and loss accounts to show the following: Prime cost, total factory overhead, Cost of Production, Gross profit and Net profit.
Behavioural Objectives:	At the end of the lesson, the students should be able to: a. prepare manufacturing account b. prepare trading profit and loss account c. the accounts should able to show the following: Prime cost, factory overheads, cost of production, gross profit and net profit,
Instructional Materials	Visual material (real object with chalkboard)
Previous knowledge:	Students have been taught meaning of manufacturing account, classification of cost and manufacturing terminologies.
Introduction:	The teacher introduces the lesson by revising the knowledge of previous lesson and relates it to the present lesson
Presentation:	The teacher will present her lesson through the following steps: Step1: The teacher asks the pupils based on the previous lesson Step 2: The teacher will give manufacturing account format which will show to the students how to arrive at prime cost, factory overhead and cost of production

- Step 3: The teacher will write trading profit and loss account format on chalkboard and will explain how cost of production transfer to the trading account to the students
- Step 4: The teacher asks the pupils practical questions on step 2 and step 3 which require critical thinking for better understanding of the topic
- Step 5: The teacher will write an elaborate question on manufacturing account on the chalkboard and solve it together with the students.
- Summary: The teacher briefly goes over the lesson stressing the important point from the topic taught
- Conclusion: The teacher concludes the lesson by giving the students assignments on manufacturing account.
- Assignment: Exercise 10.1 on Comprehensive Financial Accounting Textbook for Senior Secondary Schools
- Reference Book: Comprehensive Financial Accounting Textbook for Senior Secondary Schools by Akintelure and Oguobi

APPENDIX H

(LESSON PLAN ON COOPERATIVE TEACHING METHOD) WEEK 2

Name of Teacher	Ibitoye .D. Oluwakemi
School	Kaduna Capital School
Class	S.S 2
Average Age	16 years
Subject	Principles of Accounting
Topic	Manufacturing Account
Method of Teaching	Cooperative Learning Method
Duration	80 minutes (Double Period)
General Objective:	To teach students the meaning of manufacturing account, classification of cost of production and manufacturing terminologies.
Behavioural Objectives:	At the end of the lesson, the students should be able to: a. define manufacturing account b. state the manufacturing terminologies c. classify cost of production cost
Instructional Materials	Visual material (real object with chalkboard)
Previous knowledge:	Students have been taught trading profit and loss account up to balance sheet which is the basis upon which the manufacturing account laid on.
Introduction:	The teacher introduces the lesson by revise the knowledge of trading account and relates it with the manufacturing account which is the new topic
Presentation:	The teacher will present his lesson through the following steps:
Step 1:	The teacher asks questions on trading profit and loss account
Step 2:	The teacher defines the manufacturing account and differentiates it from trading account
Step 3:	The teacher states and explains the manufacturing terminologies such as: stocks, Wages, Prime cost, Factory Overhead, Work-in-progress and Cost of materials Consumed

- Step 4: The teacher states and explains the classification of cost of production that is direct cost and indirect cost.
- Step 5: the teacher will group students into team in which they will be four in each team
- Evaluation: The teacher asks the students the following questions in order to test the level of their understanding:
- a. What is Manufacturing Account?
 - b. Differentiate between Manufacturing account and Trading account
 - c. State and explain **Five** Manufacturing terminologies that you know
- Summary: The teacher briefly goes over the lesson stressing the important point from the topic taught
- Conclusion: The teacher concludes the lesson by giving the students assignments on the topic
- Reference Book: Comprehensive Financial Accounting Textbook for “A” level by Akintelure and Oguobi

APPENDIX I

(LESSON PLAN ON COOPERATIVE TEACHING METHOD) WEEK 3

Name of Teacher	Ibitoye .D. Oluwakemi
School	Kaduna Capital School
Class	S.S 2
Average Age	16 years
Subject	Financial Accounting
Topic	Manufacturing Account
Method of Teaching	Cooperative Learning Method
Duration	80 minutes (Double Period)
General Objective:	To teach students the preparation of manufacturing account, trading profit and loss account to show the following: Prime cost, total factory overhead, Cost of Production, Gross profit and Net profit.
Behavioural Objectives:	At the end of the lesson, the students should be able to: a. prepare manufacturing account b. prepare trading profit and loss account c. the accounts should able to show the following: Prime cost, factory overheads, cost of production, gross profit and net profit,
Instructional Materials	Visual material (real object with chalkboard)
Previous knowledge:	Students have been taught meaning of manufacturing account, classification of cost and manufacturing terminologies.
Introduction:	The teacher introduces the lesson by revising the knowledge of previous lesson and relates it to the present lesson
Presentation:	The teacher will present his lesson through the following steps:
Step 1:	The teacher asks questions based on the previous lesson
Step 2:	The teacher will give manufacturing account format which will show to the students how to arrive at prime cost, factory overhead and cost of production

- Step 3: The teacher will write trading profit and loss account format on chalkboard and will explain how cost of production transfer to the trading account to the students
- Step 4: The teacher will write an elaborate question on manufacturing account on the chalkboard and asked the students to solve with their colleagues in team.
- Step 5: the teacher will go round the class to examine what each group is doing and correct them if the needs arise.
- Summary: The teacher briefly goes over the lesson stressing the important point from the topic taught
- Conclusion: The teacher concludes the lesson by giving the students assignments on manufacturing account. Which the students will do together with their team
- Assignment: Exercise 10.1 on Comprehensive Financial Accounting Textbook for Senior Secondary Schools
- Reference Book: Comprehensive Financial Accounting Textbook for Senior Secondary Schools by Akintelure and Oguobi

APPENDIX J

(LESSON PLAN ON LECTURE TEACHING METHOD) WEEK 2

Name of Teacher	Ibitoye .D. Oluwakemi
School	Kaduna Capital School
Class	S.S 2
Average Age	16 years
Subject	Principles of Accounting
Topic	Manufacturing Account
Method of Teaching	Lecture Method
Duration	80 minutes (Double Period)
General Objective:	To teach students the meaning of manufacturing account, classification of cost of production and manufacturing terminologies.
Behavioural Objectives:	At the end of the lesson, the students should be able to: d. define manufacturing account e. state the manufacturing terminologies f. classify cost of production cost
Instructional Materials	Visual material (real object with chalkboard)
Previous knowledge:	Students have been taught trading profit and loss accounts up to balance sheet which is the basis upon which the manufacturing account laid on.
Introduction:	The teacher introduces the lesson by reviewing the knowledge of trading account and relates it with the manufacturing account which is the new topic
Presentation:	The teacher will present her lesson through the following steps:
Step 1:	The teacher asks questions on trading profit and loss account
Step 2:	The teacher defines the manufacturing account and differentiates it from trading account
Step 3:	The teacher states and explains the manufacturing terminologies such as: stocks, Wages, Prime cost, Factory Overhead, Work-in-progress and Cost of materials Consumed

- Step 4: The teacher states and explains the classification of cost of production that is direct cost and indirect cost
- Evaluation: The teacher asks the students the following questions in order to test the level of their understanding:
- d. What is Manufacturing Account?
 - e. Differentiate between Manufacturing account and Trading account
 - f. State and explain **Five** Manufacturing terminologies that you know
- Summary: The teacher briefly goes over the lesson stressing the important point from the topic taught
- Conclusion: The teacher concludes the lesson by giving the students assignments on the topic
- Reference Book: Comprehensive Financial Accounting Textbook for “A” level by Akintelure and Oguobi

APPENDIX K

(LESSON PLAN ON LECTURE TEACHING METHOD) WEEK 3

Name of Teacher	Ibitoye .D. Oluwakemi
School	Kaduna Capital School
Class	S.S 2
Average Age	16 years
Subject	Financial Accounting
Topic	Manufacturing Account
Method of Teaching	Lecture Method
Duration	80 minutes (Double Period)
General Objective:	To teach students the preparation of manufacturing account, trading profit and loss account to show the following: Prime cost, total factory overhead, Cost of Production, Gross profit and Net profit.
Behavioural Objectives:	At the end of the lesson, the students should be able to: d. prepare manufacturing account e. prepare trading profit and loss account f. the accounts should be able to show the following: Prime cost, factory overhead, cost of production, gross profit and net profit,
Instructional Materials	Visual material (real object with chalkboard)
Previous knowledge:	Students have been taught meaning of manufacturing account, classification of cost and manufacturing terminologies.
Introduction:	The teacher introduces the lesson by revising the knowledge of previous lesson and relates it to the present lesson
Presentation:	The teacher will present his lesson through the following steps:
Step 1:	The teacher asks question based on the previous topic
Step 2:	The teacher will give manufacturing account format which will show to the students how to arrive at prime cost, factory overhead and cost of production
Step 3:	The teacher will write trading profit and loss account format

on chalkboard and will explain how cost of production transfer to the trading account to the students

Step 4: The teacher will write an elaborate question on manufacturing account on the chalkboard and solve it for the students.

Summary: The teacher briefly goes over the lesson stressing the important point from the topic taught

Conclusion: The teacher concludes the lesson by giving the students assignments on manufacturing account.

Assignment: Exercise 10.1 on Comprehensive Financial Accounting Textbook for Senior Secondary Schools

Reference Book: Comprehensive Financial Accounting Textbook for Senior Secondary Schools by Akintelure and Oguobi