

**INFLUENCE OF SOCRATIC AND INTERACTIVE METHODS OF TEACHING
FINANCIAL ACCOUNTING ON PERFORMANCE OF SECONDARY SCHOOL
STUDENTS IN KATSINA METROPOPLIS, NIGERIA**

BY

ONAOLAPO ENIOLA

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

MAY, 2015

**INFLUENCE OF SOCRATIC AND INTERACTIVE METHODS OF TEACHING
FINANCIAL ACCOUNTING ON PERFORMANCE OF SECONDARY SCHOOL
STUDENTS IN KATSINA METROPOLIS, NIGERIA**

BY

**Eniola ONAOLAPO, B.ED (ZARIA) 2011
M.Ed/Educ/20396/2012-2013**

**A THESIS SUBMITTED TO THE DEPARTMENT OF VOCATIONAL AND
TECHNICAL EDUCATION, FACULTY OF EDUCATION,
AHMADU BELLO UNIVERSITY, ZARIA**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF A
MASTER DEGREE IN EDUCATION (BUSINESS EDUCATION)**

DECLARATION

I declare that the work in this Thesis entitled Influence of Socratic and Interactive Methods of Teaching Financial Accounting on Performance of Secondary School Students in Katsina Metropolis, 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 this report thesis was previously presented for another degree or diploma in this or any other Institution.

ONAOLAPO ENIOLA

Signature

Date

CERTIFICATION

This Thesis entitled INFLUENCE OF SOCRATIC AND INTERACTIVE METHODS OF TEACHING FINANCIAL ACCOUNTING ON PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN KATSINA METROPOLIS, NIGERIA by Eniola ONAOLAPO meets the regulations governing the award of M.ED (Business Education) of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

Prof. A. A Udoh
Chairman, Supervisory Committee

Signature

Date

Dr. S. Ibrahim
Member, Supervisory Committee

Signature

Date

Prof. A.A Udoh
Head of Department

Signature

Date

Prof. A. Z Hassan
Dean, School of Postgraduate Studies

Signature

Date

DEDICATION

This work is dedicated to God Almighty. It is also dedicated to the following people:

Deacon Caleb Oluwasegun Onaolapo	Husband
Oladapo Onaolapo	Son
Olakunle Onaolapo	Son
Olamide Onaolapo	Daughter
Olayinka Onaolapo	Daughter
Rebecca Olufemi Onaolapo (aka) Iya Yellow	Mother in-law (Late)
Abike Oladeru	Mother
Gabriel Onaolapo	Father in-law (Late)
Isaac Omo-lawani Oladeru	Father (Late)

ACKNOWLEDGEMENT

A work of this nature is hardly the effort of an individual alone. The researcher gives thanks to God Almighty, the source of all knowledge, for His mercies and goodness that the researcher enjoyed throughout the period of study. Special gratitude goes to the researcher supervisors Prof. A.A. Udoh and Dr. S. Ibrahim who read and corrected this work. Undoubtedly, their relentless and unremitting efforts in reading this work made it a success. Special thanks to the researcher's internal examiners Dr. R.B Raymond and Prof. T. O Ojo for their efforts in reading and correcting this work. The researcher also appreciates the efforts of her external examiner Prof. Lawrence E. Ekpenyong who read and corrected this work. In addition, she is grateful to Prof. M. M Aliyu for the academic encouragement.

The researcher would not fail to express her gratitude to all school principals, examination officers and Mall Muktar of Ministry of Education Katsina for their co-operation and assistance for providing all relevant data needed for the study. More so, to the students the researcher appreciates your full co-operation throughout the study. The researcher equally appreciates the efforts of Mr. Kayode Sangotoro who read and corrected all grammatical errors of this work.

Special and deep gratitude goes to the researcher's loving, caring and darling husband Deacon Caleb Oluwasegun Onaolapo for his unrelenting efforts and encouragement to pursue this programme. To the researcher's children who endured her absence most of the time, especially Olamide Onaolapo for her assistance in keeping the home moving.

The researcher equally registers her appreciation to her aged mother Mrs Abike Oladeru and Rev. Dr. and Mrs A.O Adediran for their prayers towards the successful completion of this programme. She also thanks all her colleagues in Business Education for their advice, prayers and moral supports. Working with you has been a great encouragement towards the success of this work.

Finally, her special thanks go to the Department of Vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria for granting her the opportunity to study and to carry out this research work.

ABSTRACT

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

TABLE OF CONTENTS

	Page
Title Page -----	ii
Declaration-----	iii
Certification-----	iv
Dedication-----	v
Acknowledgement-----	vi
Abstract-----	vii
Table of Contents-----	viii
List of Tables-----	xi
List of Appendices-----	xii
List of Abbreviations-----	xiii
 CHAPTER ONE: INTRODUCTION	
1.1 Background to the Study -----	1
1.2 Statement of the Problem -----	5
1.3 Objectives of the Study -----	7
1.4 Research Questions -----	7
1.5 Null Hypotheses -----	8
1.6 Significance of the Study -----	9
1.7 Basic Assumptions of the Study -----	9
1.8 Delimitation of the Study -----	9

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1	Theoretical Framework -----	11
2.2	Cognitive Styles -----	12
2.3	Historical Development of Financial Accounting in Nigeria-----	17
2.4	Effective Teaching -----	21
2.5	Types of Teaching Methods-----	27
2.6	Empirical Studies -----	55
2.7	Summary of the Reviewed Literature -----	67

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1	Research Design -----	69
3.2	Population for the Study -----	69
3.3	Sample Size and Sampling Procedure -----	70
3.4	Instrument for Data Collection -----	72
3.4.1	Validity of the Instrument -----	72
3.4.2	Pilot Study -----	73
3.4.3	Reliability of the Instrument -----	73
3.5	Procedure for Data Collection -----	73
3.6	Procedure for Data Analysis -----	74

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1	Analysis of Demographic Data -----	75
4.2	Answers to Research Questions: -----	76
	Research Question One -----	76
	Research Question Two -----	77
	Research Question Three -----	78
	Research Question Four -----	79
4.3	Testing of Null Hypotheses: -----	80

Null Hypothesis One	-----	81
Null Hypothesis Two	-----	82
Null Hypothesis Three	-----	83
Null Hypothesis Four	-----	84
4.4	Summary of Major Findings -----	85
4.5	Discussion of Findings -----	86
 CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS		
5.1	Summary -----	89
5.2	Conclusion -----	90
5.3	Recommendations -----	90
5.4	Suggestion for Further Studies -----	91
	REFERENCES -----	92
	APPENDICES -----	98

List OF TABLES

Table	Page
3.1 Population for the Study -----	70
3.2 Sample Size for the Study -----	71
4.1 Percentage Analysis of Respondents by Gender-----	75
4.2 Percentage Analysis of Respondents by Age -----	76
4.3 Mean Performance of Secondary School Students taught Financial Accounting using Socratic and lecture (teaching) Methods -----	77
4.4 Mean Performance of Secondary School Students taught Financial Accounting using interactive and lecture (teaching) methods -----	78
4.5 Mean Performance of Secondary School Students taught Financial Accounting Using Socratic and Interactive Methods -----	79
4.6 Effectiveness of the Three Instructional Methods -----	79
4.7 Test for difference on Performance of Secondary School Students Taught Financial Accounting using Socratic and Lecture (teaching) Methods	81
4.8 Test for difference on Performance of Secondary School Students Taught Financial Accounting Using Interactive and Lecture (teaching) methods	82
4.9 Test for difference between the performance of Secondary School Students Taught using Socratic and Interactive Methods -----	83
4.10a Analysis of Variance (ANOVA) Statistics to test for differences among Students Performances in the use of the three teaching methods -----	84
4.10b LSD Post-HOC Multiple Comparison test between the Socratic, Interactive and Lecture “teaching” Methods -----	85

LIST OF APPENDICE

Appendix

Page

I	Letter of Introduction -----	98
II	Financial Accounting Achievement pre-test -----	99
III	Pre-test: Objective Marking Scheme -----	104
IV	Financial Accounting Achievement post-test -----	105
V	Post-test: Essay Question Marking Scheme -----	107
VI	Lesson Plans -----	111
VII	Students' Pre-test and Post-test Scores -----	131
V I11	May/June WASSEC Result Analysis by Schools from the year 2008 to 2012 -----	132

List OF ABBREVIATIONS

G.C.C	-	Government Commercial College
G.C.K	-	Government College Katsina
G.G.S.S.S	-	Government Girls Senior Secondary School
G.G.T.C.C	-	Government Girls Technical and Commercial College
G.P.S.S	-	Government Pilot Secondary School
G.U.S.S.S	-	Government Unity Senior Secondary School
NECO	-	National Examination Council
SS	-	Senior Secondary
US	-	United State
WAEC	-	West African Examination Council

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Financial Accounting is part of Business Studies curriculum in the group of vocational subjects and the most popular subject that students offered among the vocational elective subjects. Financial Accounting is the measurement, recording and communication of economic data. Economic data are information about an individual, firm or organization, which can be expressed in monetary terms. Financial Accounting is viewed by Udoh (2003) as a specialized area of instruction that deals directly with business facts, business understanding, economic understanding, business attitudes and appreciations necessary to understand and adjust to the economic and social institution called “business”. It seeks to achieve a number of objectives, as contained in West African Senior Secondary School Certificate Examination syllabus (2000 - 2004) and Osuala (2004).

Performance is the accomplishment of a given task measured against preset standards. Academic performance refers to what students achieve in their studies and how they cope with different learning experiences given to them by their teachers. Ibrahim (2011) reported that in educational institutions success is measured by academic performance, or how well a student meets the standards set out by the institution.

The secondary school level of education is a very fundamental stage in the life of the students because it gives them a firm foundation on which they can achieve their life goal and self-reliance or proceed to the higher institutions of learning for further studies. According to National Policy on Education FRN (2004) the broad goal of the secondary school education 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 in senior secondary school. The curriculum designed for senior secondary school is comprehensive and broad based, aimed at broadening students' 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.

No matter how good the stated objectives may appear it cannot be automatically realized except it goes through the right process, that is, the teaching and learning processes. Teaching, according to Ajoma (2009), is the science and art of assisting a person to learn. The science of teaching entails the use of acquired knowledge from natural and behavioural science in order to help appreciate the circumstance and personality of the learner, while the art aspect of teaching involves the use of creative and demonstrative skills in aiding the delivery of instruction. Learning, on the other hand, may be defined as “the process by which some activities enable the learner to acquire experiences that tend to influence (change) his/her future behaviour; provided that the characteristics of the change in behaviour cannot be explained on the basis of negative response tendencies, maturation, or temporary state of the learner” (Ajoma, 2009). From the definitions given here, it is clear that teaching and learning go side by side and the central purpose of the process is to effect desirable change in the learner's behaviour. In order to achieve this, relevant teaching method(s) must be adopted by the teacher, who is the person knowledgeable about the subject or topic(s) to be taught.

Teaching methods are strategies used by a teacher to create situations in which learning experiences can freely pass to the students. It also refers to the technique adopted by the teacher in order to impact the learners with the necessary skills and knowledge required to achieve the goal of the lesson or subject. According to Mohammed, Gayus, Oscar and Solomon (2002) teaching methods are ways and means of relating the teacher and students in a teaching and learning environment Magudu (2005) concluded that

teaching method consists of sequence of activities involved in instructing learners. It is a carefully thought out plan for achieving definite goals. There are numerous teaching methods at the disposal of business education teachers according to Mohammed et al (2002), Osuala (2004), and Makinde (2005). The various teaching methods include: demonstration method, project method, field trip method, problem-solving method, interactive method, lecture method, Socratic Method, sales talk or quest speaker and assignment method. Therefore, it is the responsibility of the teacher, based on the topic to be treated to select appropriate method(s) that will enhance learning.

There are different methods of teaching used at the secondary school level. One of the most common is lecture (teaching) method; it involves the teacher talking to the students about the subject while the students listen sometimes passively. Makinde (2005) stated that, lecture method is an oral presentation of information to students without an active involvement or effort on the part of the students. To him, it is the prevalent method of teaching in tertiary institutions. However, Cantrell (2004) opined that the Lecture method “teaching” is considered to be leader centred with an emphasis on content delivery. The leader is actively involved and the learner is passively taking in the information (for example listening, reading and overhead).

Socratic Method of teaching is sometimes referred to as questioning method, Fajemidagba (2004) also explains that Socratic Method is translated to mean “question and answer” method. The question and answer method is explained as: “the teacher asks a question, one student answers, the teacher reacts and asks another question which is responded to by a second student, and so forth”. According to Fajemidagba, the method is believed to be extremely valuable as a way to guide developmental thinking, to stimulate creativity, problem solving, to initiate discussion and to stimulate quick recall of requisites needed for the day’s lesson. Teachers can use the Socratic Method in a variety of subject

areas and across grade levels in order to challenge students to examine both contemporary and historical issues. The goal of the Socratic Method is, firstly, to help students' process information and engage in deeper understanding of topics and that the teacher can easily know through the questions whether his students have pay attention to same thing or not. Secondly, it keeps the students alert and therefore, keep their attention intact.

An interactive method of teaching is where both students and teachers contribute to the achievement of the objectives of the lesson. According to Abimbola (2004), interactive method of teaching is a method in which teachers and students share ideas, compare and contrast views on a given problem, a question or a situation. The method assumes that students have some background information on the topic of discussion. The discussion can be teacher-led or student-led with teacher guidance. Omatseye (2007) stated that it is a teaching strategy in which the teacher brings students face to face as they engage in verbal interchange of ideas. The teacher in his interactions with his students performs a variety of roles. He is, firstly, a teacher whose business is to transmit knowledge, and in doing this, he specifies the objectives of his lesson and examines the needs and background of the students for relevance of the topic and its suitability.

It is a design that provides opportunity for discussion between teacher and students, and students to students. It is a strategy that centers on shared conversations, discussions and exchange of ideas in class. It gives opportunity for all to sit and listen, as well as talk and think, thus emphasizing the process of "coming to know" as valuable as "knowing the right answer". In other words, students in an interactive class are not passive listeners neither is the teacher a sole performer.

Okwuanaso and Nwazor (2001) noted that the methods of teaching Financial Accounting largely determine whether students will learn or not. It means that if the appropriate teaching method(s) is/are not used effectively, learning will not take place and

academic performance will be poor. Also, Okon (2002) observed that the ineffective teaching methods used by Financial Accounting teachers in secondary schools have failed to produce students with needed skills for employment and admission into tertiary institutions. Raymond and Ogunbameru (2005) concluded that financial accounting teachers' effectiveness in instructional delivery depends on their consideration of the nature of the subject during instructional planning.

It is based on the stated background that the researcher considers it necessary to find out the effectiveness of three instructional methods (Socratic, Interactive and Lecture methods) in teaching Financial Accounting in public secondary schools in Katsina State.

1.2 Statement of the Problem

For instance, the poor performance of students in external examinations in Nigeria from 2008-2011 is of great concern to the government, parents and well meaning Nigerians. It has been observed that the huge investment on education is not yielding the desired dividend (Adebule, 2004). The teachers also complained usually about students' low performance at both internal and external examinations. In spite of the various methods available to the Business Education teachers, the performances of students over the years have not been encouraging particularly in Financial Accounting in the Senior Secondary Schools. The West African Examination Council's (WAEC) (2011), statistics of entries and results by subjects and grades in the May/June WASSCE for the year 2008-2011 has revealed a very high rate of failure in Accounting. What could be responsible for this rate of failure? The answer is not farfetched. A number of authors are of the view that the most contributing factors are the methods of teaching used by the Financial Accounting teachers. According to Olowodun (2010), the effective learning of accounting depends on the effective teaching of the subject and available resources. However, the problem of poor performance of students offering financial accounting is disturbing and alarming and,

therefore, calls for urgent attention. Saro in Olowodun (2010) observed that accounting education provided by Nigerian Secondary Schools is more examination-oriented than of life-practical-value, resulting in poor performance of students in examination. This is evident in the West African Examination Council's (2011) report on May/June 2008-2011 statistics. The report not very encouraging revealed, percentage passes at Credit level to be 35.55% in 2008, 38.45% in 2009, 52.21% in 2010 and 53.43% in 2011.

In Katsina State particularly, the WAEC results from 2008-2012 revealed the percentage of credit passes in Financial Accounting to be 40.98%, 36.07%, 39.13%, 35.69% and 16.80% respectively. The tables showing individual results for the year 2008-2011 is presented in appendix two (2). These poor performances have caused a lot of problems for secondary schools' students in Katsina State. Some of these students still failed after a number of attempts, resulting into inability to get admission to institutions of higher learning. Such students are not even prepared to start their own businesses and be self-reliant.

Statement of the problem, the researcher's interaction with the Financial Accounting teachers, examination officers and school principals of selected senior secondary schools in Katsina State metropolis tends to show that, there is an acute shortage of teachers to teach the subject and most of the available teachers teaching the subject are not qualified. Some of the teachers could be said to attribute the problem to inability to complete the syllabus apart from their poor background qualification in terms of communication skills. Also, an interaction with the students, on the other hand, showed that most of the students complained of not understanding the subject, possibly because of the type of teaching methods used by the teachers.

It is based on these inconsistencies in the views of teachers responsible for the researcher to be interested in carrying out an investigation on the possible influence of

Socratic and Interactive methods in teaching Financial Accounting in public secondary schools in Katsina State.

1.3 Objectives of the Study

The major objective of this study is to determine the influence of Socratic and interactive methods of teaching Financial Accounting on performance of secondary school students in Katsina Metropolis, Nigeria.

The specific objectives are to:

1. Determine the difference between the performance of secondary school students taught financial accounting using socratic method and those taught using lecture (teaching) method.
2. Determine the difference between the performance of secondary school students taught financial accounting using interactive method and those taught using lecture (teaching) method.
3. Determine the difference between the performance of secondary school students taught financial accounting using socratic method and those taught using interactive method.
4. Ascertain the extent to which the three instructional methods are effective in teaching financial accounting in secondary schools in Katsins State.

1.4 Research Questions

In line with each specific objective and with focus on research topic, the study will provide answers to the following research questions:

1. what is the difference between the performance of secondary school students taught financial accounting using socratic method and those taught using lecture (teaching) methods.

2. what is the difference between the performance of secondary school students taught financial accounting using interactive method and those taught using lecture (teaching) methods.
3. what is the difference between the performance of secondary school students taught financial accounting using socratic method and those taught using interactive methods.
4. To what extent are the three instructional methods effective in the teaching of financial accounting in secondary school?

1.5 Null Hypotheses

In line with research questions and focus on research topic, the following null hypotheses are postulated:

1. There is no significant difference between the performance of secondary school students taught financial accounting using socratic method and those taught using lecture (teaching) method.
2. There is no significant difference between the performance of secondary school students taught financial accounting using interactive method and those taught using lecture (teaching) method.
3. There is no significant difference between the performance of secondary school students taught financial accounting using socratic method and those taught using interactive method.
4. There is no significant difference in the performance of secondary school students taught financial accounting using the three teaching methods.

1.6 Significance of the Study

The findings of this study will be of great importance to the following people:

Financial Accounting teachers, as it will help them in the selection and use of appropriate teaching methods that will enhance students' performance. It will also be useful to Katsina State Ministry of Education towards seeing the necessity and importance of why they should improve on training and re-training of teachers in the selection and use of appropriate teaching method.

It will equally be of use to the curriculum planners as it will help them to suggest relevant teaching methods for teaching different topics in the curriculum. With the use of appropriate/relevant teaching methods, students will also benefit by improving their academic performance. Also, it is hoped that other researchers will benefit from the research findings as it can serve as reference materials for them.

1.7 Basic Assumptions of the Study

The basic assumptions for this study are that:

1. Failure in Financial Accounting was as a result of the ineffective method(s) used in teaching the subject.
2. Students' performance in Financial Accounting will be enhanced with the use of Socratic method of teaching.

1.8 Delimitation of the Study

This study was delimited to the use of two teaching methods namely Socratic method and Interactive method in teaching Financial Accounting. These methods were chosen because they were the methods not commonly used by teachers in teaching financial accounting. It was also confined to eight Senior Secondary Schools which are the only schools that offer Financial Accounting as a subject in Katsina State as at the period of this study. It was also delimited to students alone because it is from them that the

researcher wants to assess the effect of using the three methods on their performance in Financial Accounting. Only the SS11 students' both male and female for 2014/2015 academic session were used in the experiment because they have the background knowledge in Financial Accounting and there is less pressure on them with regards to preparation for external examination like WASSCE and SSCE.

The study was delimited to the topic Manufacturing Account up to Trading, Profit and Loss Account because is an aspect of account from which objective and theory questions are often set every year. (See appendix IV and V for detail).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

In this chapter, the researcher reviews the work of other researchers relevant to the research study. This is essential because the review of related and relevant literature provided a theoretical base for the researcher to build upon. It also provided the researcher with a sense of direction. The chapter focused on the following sub-headings:

- 2.1 Theoretical framework
- 2.2 Cognitive styles
- 2.3 Historical Development of Financial Accounting in Nigeria
- 2.4 Effective Teaching
- 2.5 Types of Teaching Methods
- 2.6 Empirical Studies
- 2.7 Summary of related literature

2.1 Theoretical Framework

The theoretical framework for this study is the theory of personality: Trait approach developed by Hans Eysenck in 1963 cited in Yusuf (2002). This is because the study focuses on intellectual performance of secondary school students in financial accounting. The idea of dividing people by trait can be traced back as far as Hippocrates according to Yusuf (2002). In modern time Gordon Allport, Raymond Cattell and Hans Eysenck among other psychologists have developed Trait Theory in a more understanding way. When we say someone has a lot of personality, generally we are referring to the person's social effectiveness. A full description of an individual's personality would include many factors: intellectual abilities, motive acquired in the process of growing up, emotional reactivity, attitudes, beliefs and moral values. An individual's experiences interact with his inherited

potential to shape personality, how this occurs and how the resulting personality can best be described has led to the formulation of Trait theory.

Trait, according to Yusuf (2002), refers to any characteristics in which one individual differs from another in relatively permanent and consistent way. Trait theories assume that a personality can be described by its position on a number of continuous dimensions or scales. Eysenck's theory (1963) based along two dimensions: introversion-extroversion and stability-instability. Introversion-extroversion refers to the degree to which one's basic orientation is directed toward the self (introverted) or outward toward the external world (extroverted). Stability-instability is a dimension of emotionality varying from calm, well-adjusted, reliable individuals at the stable end to those who are moody, anxious temperamental, and unreliable at the other end. According to Trait Theory, we could rate an individual on a scale of intelligence, emotional stability, aggressiveness, creativeness or any other dimensions. Allport theory (1964) organized trait into a hierarchy of three levels: cardinal trait, central trait and secondary trait. Cattell theory (1964) generated sixteen dimensions to personality: apprehension, warmth, emotional, stability and liveliness, openness to change, tension and self-reliance among others.

2.2 Cognitive Styles

Development studies by psychologists indicate that children learn at different rates and through different methods and modalities. People gather and evaluate information in their environment in different ways. In other words, different people have their personal preferences as to how they approach any problem with which they are confronted or faced. In most situations, one can discern a consistent pattern, that is, a general strategy which is the characteristic of the individual concerned in the solution of a problem. These consistencies in the individual's modes of functioning in a variety of behaviour situations

are what are referred to as cognitive or learning styles. The term cognitive style is a hypothetical construct that has been developed by psychologists to explain the process of mediation between stimuli and responses. Yusuf (2002) defined cognitive styles in terms of consistent patterns of organizing and processing information. Yusuf (2002) further defined the term as “the stable individual preferences in mode of perceptual organization and conceptual categorization of the external environment

In the same vein, Herod (2004) stated that learning styles may be thought of as the way in which people:

- i. take in information,
- ii. select certain information for further processing,
- iii. use meanings, values, skills, strategies to solve problems,
- iv. make decisions, and create new meanings,
- v. change any or all of the processes or structures described in this list.

Barry (2010) explained that over the last twenty years, the field of cognitive science identified a lot about how people learn. A central principle that has been generally accepted is that everything we learn, we "construct" for ourselves. That is, any outside agent is essentially powerless to have a direct effect on what we learn. If our brain does not do it, that is, take in information, look for connections, interpret and make sense of it, no force will have any effect. This does not mean that the effort has to be expressly voluntary and conscious on our parts. Our brains take-in information and operate continuously on many kinds of levels, only some of which are consciously directed. But, conscious or not, the important thing to understand is that it is our brains that are doing the learning, and that this process is only indirectly related to the teacher and the teaching. The Dictionary of Behavioural Sciences (Welman, 1975:211) defines cognitive styles as “the mode in which a person organizes and classifies perception of environment in order to

impose order upon a confusing series of events”, Schroder et al. (1976:17) explain the term as “the stable idiosyncratic differences among people in the way they go about taking in, processing and utilizing information obtained from their environment”.

Given these definitions, we may say that “cognitive” refers to the strategies, which the brain uses to actively select, attend to, organize, perceive, encode, store, and retrieve information. It is relatively a consistent pattern which the individual uses to solve problem. Therefore, towards effective teaching and learning, we need to be aware of learning styles to avoid mismatches in style between instructors and learners. When we teach using our own preferred style, not all of our students will have the identical style. Inevitably, learning will be diminished for some. Secondly, we need to assist our students to identify their learning styles in order that they may build confidence and more effectively manage their own learning. Thirdly, in that our own preferred learning style can influence our approach to planning, implementing and evaluating instruction, it is equally important for us to be conscious of our style. We need to become informed about alternate styles, and strengthen our ability to work in these styles in order to develop instructions for students with a broad range of styles.

Finally, although most of us have a preferred learning domain, this does not mean that we don’t use or cannot develop alternate domains. Similarly, within a domain we are likely to have a preferred learning style. Becoming aware of other styles and working to strengthen weaker ones can enhance learning by providing a variety of strategies for taking in and processing information (Herod 2004).

Knowledge of cognitive styles enables teachers to understand those qualities that determine and characterize learners’ preferred approach to problem-solving. It also enables teachers to take appropriate measure to teach the learners to adopt a preferred learning style that can enhance class learning.

Types of Cognitive Style

Different scholars' in psychology uses different learning style categories. According to Lazear (1991) multiple intelligence theory maintains that there are at least seven learning styles: intelligences, interpersonal, intrapersonal, auditory and kinaesthetic learner musical/rhythmic and visual learner. Yusuf (2002) classified cognitive style into six types these include:

- i. convergence and divergence
- ii. reflexivity and impulsivity
- iii. holists and serialists

Convergence is concerned with the focusing on the best or most appropriate solution to a problem. It deals with producing a particular well-defined response under specific directions. The converger is masculine, introverted, authoritarian and unemotional. Divergence, on the other hand, is concerned with the search for a variety of ideas or solutions; he seems to actively enjoy the expression of his personal feeling; the diverger is feminine, humorous and extroverted. Reflexivity individual considers all the possible alternative responses to a given question before he acts; he is confident and composed; he persists longer in difficult task. Impulsive child acts quickly without weighing alternative, not being a good listener, is easily confused by changes in routine. Therefore, his responses are often incorrect. Yusuf (2002) distinguished between those who are good at seeing things as parts a whole (holists) and those who are good at stringing sub-problems in sequences (serialists). In other words, the holist's learning style is the ability to receive the entire stimulus situation first before paying attention to the details, while the serialist's learning style is the ability to perceive the inter-relationship between the various elements, of the entire stimulus without necessarily having the ability to reproduce or recall the entire stimulus. Thus, while the holist takes broad look at a problem

or perceives it as a whole, the serialist perceives the problem as comprising a string of sub-problems which has to be tackled sequentially. The contrast between the two learning styles can be clearly seen when studying new material. The holist would prefer to get a general idea about the problem area by skipping over the whole field before embarking on details, whereas the serialist prefers to pursue several lines or detail before trying to form a picture of the whole problem. The holist learner scores high on reasoning tests, adopts a broad perspective and looks for interrelationships. On the other hand, the serialist scores low on reasoning tests, adopts a narrow focus of attention and learns step by step.

Duff (1998) has identified different agenda among the advocates of learning style measurement. One of such agenda is matching an individual's learning style preference to specific learning activities in order to improve learning outcomes, but also to counteract weaknesses in an individual's learning style. This is done to deal with educational tension, including mismatching, which may stretch learners educationally. Vaugham and Baker (2001) agreed that matching may lead to learners becoming bored. Much has been written and there is a long-standing debate on the relationship between teaching and learning styles and their impact on students' performance. Ford and Chen (2001) noted that numerous studies suggested that learning in matched conditions may, in certain contexts, be significantly more effective than learning in mismatched conditions. However, Zhang (2006) consented that the literature on teacher/student style match/mismatch contains somewhat ambiguous findings. This is because while some arguing the benefits of the match, others contend that the effect of matching is insignificant.

Despite the argument for match/mismatch of students learning styles to specific learning activities, it will be necessary for teachers to be conversant with students' different learning styles. Each individual has a unique combination of the six learning styles mentioned above. It then, becomes critical for teachers to study and know their students so

as to be able to help them through the appropriate use of teaching methods that will enhance learning, as students learn through various methods and modalities.

2.3 Historical Development of Financial Accounting in Nigeria

Financial accounting is a subject offered in the secondary schools in Nigeria. Various approaches have been used to describe the evolution of accounting as different authors view it. The Grecians had their accounts engraved on stone and exposed in public; specimens of such accounts are among the Elgin marbles in the British Museum. The earliest record of accounting systems preserved in the United Kingdom are those of the Exchequers of England and Scotland, and the oldest account, which has been presented, is the English Pipe role of 1130 -1131. The modern way of keeping accounting records began with the introduction of double entry in Italy in the late 13th and early 14th centuries. This was a period of rapid expansion of commerce and industry. Among the records, based on the double entry system was the book of a French firm, the Freres Bonis of Montauban, which was kept during the years 1345 – 1359. The firm used its books to obtain a review of its position and make use of its debtors and creditors.

These earliest book keeping records were very rudimentary without any definite period of balancing. In certain situations, the accounts were not even kept in the same monetary unit. Debits and credits were most times not separated but often placed one below the other as they occurred, while there were no attempts to balance the accounts. The earliest complete double entry account is that of the accounts of the stewards to the local authority, which was discovered in Genoa, Italy, in 1340. Following that was another one from the traders of Genoa which was preserved in Venice in the period 1410-1416. These records from Venice were complete as every debit had a corresponding credit and the profit and loss account balance was even transferred into the capital account. The accounting records preserved in Venice paved the way for the first academic work on the

subject of accounting. It was by Luca Pacioli who was a celebrated mathematician in those days. His famous “De Summa” accounting text brought out the treatise on accounting in 1494 and really did not have the purpose of giving instructions in book keeping, but of summarizing the existing knowledge of mathematics and included one important aspect of book-keeping. However, he concluded the work by adding the treatise on book-keeping “in order that,” according to him, “the honourable subjects of the most gracious Duke of Urbino may have complete instructions in the ordering of business.”

Luca Pacioli’s work was the gateway to modern book keeping with more development in works of primary entry, journalisation of transactions, preparation of the profit and loss account and the treatment of stock. The practice of ascertain profit and loss at the end of each year was first proposed in 1605. Another important phase in the historical development of accounting was the establishment of accounting standards. Accounting is a global phenomenon because of international trade. Each country has its own accounting laws and practices but as a result of international trade, there is the need for international agreements on accounting procedures and also for political decisions. As the accounting profession grew, the need for standards to guide the operation of accountants became necessary. Another factor that led to the establishment of accounting standards was the great depression and the stock market crash.

In 1957, the first private sector body to assume the task of setting accounting standards was established which the Committee on Accounting Procedures (CAP) was. The CAP was a Committee of the American Institute of Accountants (AIA), which was renamed the American Institute of Certified Public Accountants (AICPA). In 1959, the Accounting Principles Board (APB) replaced CAP. They were to establish a theoretical framework for Financial Accounting. Unfortunately, the effort of the APB was not successful. Also, the APB was criticized by the industry and government for its inability to

establish an underlying framework for financial accounting and reporting. The criticism of the APB led to the creation in 1973 of the Financial Accounting Standard Board (FASB) and its supporting structure. In addition to issuing specific accounting standards, the FASB formulated a conceptual framework to provide an underlying theoretical and conceptual structure for accounting standards. Also the U.S Security and Exchange Commission (SEC) was established to set accounting standards, specifically for companies whose securities are publicly traded (Adukia, 2009). However, the accounting standards prescribed by these various groups differ from country to country. It has been argued that different national accounting standards impaired the ability of companies to raise capital in international markets. In response to this problem, the International Accounting Standards Committee (IASC) was formed in 1973 to develop global accounting standards. The IASC in 2001 organized itself and created a new standard-setting called the International Accounting Standards Board (IASB) (Adukia, 2009).

Akeju (2005) observed that, the development of social life especially the formation of states and sovereignties and, consequently, the levying of taxation, necessitated a power of holding, counting and recording. This is in addition to knowledge of numbers, and marks the origin of the science of accounting. A study of early civilization reveals that the Babylonian business men recorded their sales and money lending thousands of years ago in clay tablets. Similarly, ancient Egyptians used papyrus to describe tax collection before 1,000 BC. Akeju (2005) states that the Greeks and Romans had well developed record-keeping systems especially for government affairs. For example, Emperor Augustus was said to have instituted a government budget in ADS. After this, inspectors from the central government in Rome were sent out to examine the accounts provincial governors.

In Nigeria, there is no record as to when accounting started. This was supported by Happy (2007) who noted that there was no accurate record as to when book-keeping started

in Nigeria before the advent of the Europeans. Nevertheless, some forms of traditional record keeping used then were by making marks on the wall. With the coming of Europeans, schools were established where people were taught how to read and write. As time went on, accounting became a profession in Nigeria. As a result of this, the Institute of Chartered Accountants of Nigeria (ICAN), was established in 1965, as one of the legal bodies responsible for the regulation of the practice of Accountancy in Nigeria. It is now compulsory that anyone who wants to be a Chartered Accountant in Nigeria must be a registered member of any of the recognized bodies like ICMA, ANAN and ICAN. Also what is called Financial Accounting today is just an aspect or a branch of Accounting which is studied as a subject or course. Currently in Nigeria, the statutory framework comprises the statutes enacted by government to govern the conduct of economic activities, the main one of which is the Companies and Allied Matters Act (C.A.M.A) 1990. This statute stipulates the requirements for the formulation/registration of companies, how companies are to conduct their affairs, the type of accounting records and financial statements required of companies, how the life of the companies may be brought to an end and so on. However, public accountability is emphasized in government activities. Managers of government agencies and organizations are required by the law of Companies and Allied Matters Act (C.A.M.A) 1990, to report their activities which show all financial transaction activities to the government of the federation.

Desantis (2008) noted that accounting is the 'oldest profession'. In fact, since the pre-historic times families had to account for food and clothing to face the cold seasons. Later when man began to trade, the concept of value was established and monetary system was equally developed. John (2009), observed that some argue that accounting developed purely in response to the needs of time brought about by changes in the environment and societal demands. Others claim that the development of the science of accounting has itself

driven evolution of commerce. This was because it was only through the use of more precise accounting methods that modern business was able to grow, flourish and respond to the needs of its owners and the public. Either way, the history of accounting throws a light on economic and business history generally. That was why Adukia (2009) stated that pressure on accounting profession to establish uniform accounting standards began to surface after the stock market crash in 1929 in America. A number of people felt that insufficient and misleading financial statement information led to inflated stock prices, and that it contributed to the stock market crash and the subsequent depression.

According to the free dictionary Wikipedia (2010), Financial Accounting is the branch of Accounting involving preparation and publication of financial statements, earnings, reports and other forms for disclosure to shareholders, regulators or any other stakeholder. Accounting practice as described by Popoola (2011) is as old as man and at each stage of development of man; he has developed accounting records according to the needs of that time. Records are developed and used in enumeration and control of assets, in reporting stewardship, for production control, sales control and other aspects of business.

2.4 Effective Teaching

Teaching is a process of facilitating student learning through a proper management by the teacher of the interrelationships among students' interest, content for learning and the methods and materials he or she intends to use in the teaching and learning of the content material (Abimbola 2004). Teaching, according to Ojo (2010), is an attempt to help someone acquire or change some skills, attitude, knowledge, idea or appreciation. Ojo (2010) stressed that teaching is a conscious effort by matured and experienced persons to impart information, knowledge, skills, attitude, value, ideas, appreciation and habits to inexperienced and immature persons. It is also defined as the activity of education that imparts knowledge or skill which results in learning. Teaching is an interactive process

which takes place between teacher and students in which the students are being instructed. Teaching and learning should be inseparable, in that learning is a criterion and product of an effective teaching. Ajoma (2009) defined learning as the process of which some activities enable the learner to acquire experience that tends to influence (change) in his/her future behaviour. It is clear that teaching and learning go side by side and the central purpose of the process is to effect desirable change in the learner's behaviour.

At this juncture, it will be pertinent to ask the question: what is effective teaching and learning? Boice (2000) believes that effective teaching requires being able to decide what to teach and how to teach it, and assessing how well your students have learned what you are teaching. This view is further supported by Ubah (2012). According to Ubah (2012), effective teaching consists of relationship between what a teacher does while teaching and their effects on the growth and development of the learner. An effective teacher will, therefore, interact skilfully with pupils so that they learn meaningfully. From this point of view, teaching effectiveness is concerned with those aspects of teaching over which the teacher has direct control and current options that could be measured by the learner's outcome. Consequently, effective teaching involves classroom teaching behaviours/interactions between the teacher, the learner, the subject matter or combination of these three dimensions. Learning, on the other hand, is a process through which behaviour is initiated, modified or changed. Furthermore, learning takes place drawing from the teacher effectiveness. This means that teacher effectiveness is linked with learning outcome. In essence, learning is the goal of teaching.

The teacher, through his training, is equipped to be in charge of the teaching and learning process and as a result is responsible for the effectiveness of the teaching and learning process.

Everyone, every parent, young person and citizen in Nigeria would like to have the assurance that all our children are being taught and prepared for college, for future work and for life. In order to achieve this, we need to ensure that we incorporate the qualities of effective teaching in our professional lives. Effective teachers understand and are able to apply strategies to help students increase achievement. They understand and apply knowledge of child and adolescent development to motivate and engage students. They are able to diagnose individual learning needs; they know how to develop a positive climate in the classroom in order to make it a stimulating learning environment.

In essence, teaching effectiveness involves a deep understanding of subject matter, learning theory and student differences, planning, classroom instructional strategies, knowing individual students, and assessment of student understanding and proficiency with learning outcomes. Siagh and Rana (2004) were of the view that, able teachers always find ways and means to improve their teaching techniques. Barry (2010) opined that, it also includes a teacher's ability to reflect, collaborate with colleagues and continue ongoing professional development. With the changes in time, the teachers are asked to employ newer methods of teaching their students more effectively so that they must be able to cope with the demand of the age. Osuala (2002) noted the following points as general principles to teachers of financial accounting for effective teaching and learning in the class:

1. the teacher should have a sound academic background in financial accounting to be able to impart knowledge adequately.
2. the teacher should know the domains of educational objectives to be able to formulate instructional objectives using:
 - a. appropriate action verbs.
 - b. specifying the time for the achievement of the objectives.
 - c. stating the level of minimum performance of the students.

- d. stating the operation condition, and
 - e. stating the behaviour terms, that is, the expected outcome of the lesson, (visible, event, measurable and quantifiable).
3. the financial accounting teacher should be knowledgeable in the approaches and methodologies of teaching financial accounting and should be able to select them appropriately.
 4. the financial accounting teacher should always insist on using teaching materials appropriately too.
 5. he should encourage his students to engage in repeated actual practice and drill in the subject to be able to acquire the required skills.
 6. the financial accounting teacher should be hardworking; he should not be tired of giving assignments and tests repeatedly. That is the only way the teacher can evaluate the learning progress of his students and identify those that require special attention.
 7. the financial accounting teacher should introduce the subject to new students in the manner that will:
 - (a) make the students develop interest in the subject,
 - (b) build confidence and ability to understand and succeed in the students,
 - (c) make the students understand that the teacher has personal interest and concern for them to succeed in the subject, and
 8. the teacher should ensure that the environment is comfortable for the learning: fresh air, good lighting, and furniture conveniently arranged thereby minimising possible distraction.

In the same vein, Barry (2010) outlined variety of instructional planning activities, teaching strategies and materials found to be common in the repertoires of effective teachers:

- i. they had high expectations for student learning.
- ii. they provided clear and focused instruction.
- iii. they closely monitored student learning progress.
- iv. they used alternative strategies when children didn't learn.
- v. they used incentives and rewards to promote learning.
- vi. they were highly efficient in their classroom routines.
- vii. they set and enforced high standards for classroom behavior.
- viii. they maintained excellent personal interactions with their students

It becomes clear that effective teaching is very crucial to the realization of the objectives of the teaching and learning process. The issue of effective teaching is a concern to a lot of authors and they have come up with a number of ideas about it. Berk (2005) derived twelve strategies to measure effective teaching, which include student ratings, peer ratings, teaching evaluation, videos, student interviews, alumni ratings, employer ratings, administrator ratings, teaching scholarship, teaching awards, learning outcome measurements and teaching portfolios. Mishra (2007) stressed that even students are concerned about effective teaching and they also have identified characteristics of good teaching:

- i. a teacher's enthusiasm and passion for the subject,
- ii. rapport between a teacher and a student or group of students during discussion in out-of-class,
- iii. intellectual challenges from a teacher,

- iv. clarity and organization in presenting analytical and conceptual understanding of ideas, and
- v. a teacher's scholarship.

According to Aliyu (2000), a teacher's effectiveness in relation to students' achievement in acquiring a particular knowledge or skill performance is largely measured by students, and this could only be achieved through good teaching. Therefore, the perception of what good teaching entails is essential for the improvement of teaching. To him, to adjudge teaching to be good is determined by how the teacher established classroom climate, the thought levels the teacher solicits and displays, the logical operations the teacher employs, the pedagogical moves the teacher uses; and many other aspects of the teaching

The challenge that schools have is not that we don't know what teaching effectiveness is or that we do not have models and research to guide us. The challenge is how to ensure that these practices are in every classroom and in every teacher's repertoire of professional practice. Certainly, performance on standardized tests is one measurement, but not the sole measure of what students know and can do. This is why student learning must be assessed using multiple measures. One distinguishing quality that effective teachers seem to have is that in all their approaches to planning, designing and implementing instruction and assessment, their focus is on "student learning" to inform their own teaching. This is a subtle distinction for many, because learning and teaching are connected in many ways, but this is a key distinction.

Effective teachers know who their students are; they know their students' learning styles, their strengths and their deficits as learners. They are masters of their subject matter but more importantly, effective teachers are always focused on their students' learning.

Research about teaching effectiveness is necessary because it compels us to examine study and articulate what we do every day as teacher.

2.5 Teaching Methods

Teaching method is the principle and method used in giving instructions. It may involve class participation, demonstration, recitation and memorization depending on the information the teacher is trying to convey. Evolution of teaching method could be traced back to 3000 BC as discussed below:

Evolution of Teaching Methods

About 3000 BC, with the advent of writing, education became more conscious or self-reflecting, with specialized occupations such as scribe and astronomer requiring particular skills and knowledge. The Republic, Plato described a system of instruction that he felt would lead to an ideal state. In his dialogues, Plato described the Socratic Method, a form of inquiry and debate intended to stimulate critical thinking and illuminate ideas. It has been the intent of many educators since, such as the Roman educator Quintilian, to find specific, interesting ways to encourage students to use their intelligence and to help them to learn. Comenius, in Bohemia, wanted all children to learn. In his “The World in Pictures”, he created an illustrated textbook of things children would be familiar with in everyday life and used it to teach children. Rabelais described how the student Gargantuan learned about the world, and what is in it. Much later, Jean-Jacques Rousseau in his Emile, presented methodology to teach children the elements of science and other subjects. During Napoleonic warfare, the teaching methodology of Johann Heinrich Pestalozzi of Switzerland enabled refugee children, of a class believed to be un-teachable to learn. He described this in his account of an educational experiment at Stanz. He felt the key to have children learn was for them to be loved.

By 19th Century Prussian Education System was introduced. The education system was a system of mandatory education; parts of the Prussian education system have served as models for the education systems in a number of other countries, including Japan and the United States. The Prussian model required classroom management skills to be incorporated into the teaching process. By 20th century, Newer teaching methods may incorporate television, radio, computer, and other modern devices. Some educators believed that the use of technology will facilitate learning to some degree, but it is not a substitute for educational methods that encourage critical thinking and a desire to learn (Monroe 1915).

Teaching is the stimulation, guidance and encouragement of learning. Omosewo (2004) considers teaching method as the art of creating learning situations and making pupils think by providing books, equipment, materials and questions to be answered. Also, Obi (2005) opined that teaching techniques are strategies employed by the teacher to enhance teaching. The word method has been supposed to involve a body of fixed and stereo-typed modes of procedure each applicable to its appropriate subject to be observed by all teachers (Aggarwal, (2008). Ajoma (2009) concluded that teaching method is the professional technique teachers adopt in their instructional exercises to enable them impart relevant knowledge and skills to their students. According to Barry (2010), teaching method comprises the principles and methods used for instruction. Commonly used teaching methods may include class participation, demonstration, problem-solving, field-trip, lecture, or combinations of these. The choice of teaching method or methods to be used depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students.

Teaching method, therefore, refers to the techniques or strategies employed by the teacher in order to achieve the set objective of a lesson. Method, techniques and strategies

in the educational practice refer to activities that teachers engage inside of the classroom. Specifically, they are procedures and techniques that are undertaken and primarily planned by the teacher to transfer knowledge. From the definitions given, it could be deduced that the responsibility of the selection and adoption of teaching method to be used in the teaching of a subject or a particular topic lies on the shoulder of the teacher. According to Aggarwal (2005), method of teaching should aim at the following objectives:

1. they should aim at developing love for work,
2. they should develop the capacity for clear thinking,
3. their aim should be to transform schools into ‘work schools’ and ‘activity schools’
4. they should aim at inculcating the desire to do work with the highest maximum of efficiency which one is capable of. The motto before the teachers and the students should be “Everything that is worth doing at all is worth doing well”,
5. they should provide adequate opportunities for participation in freely accepted projects and activities in which cooperation and discipline are constantly in demand.
6. they should expand the student’s interest. This can be achieved by providing in the time table, at least one free period everyday in which students pursue their favourite hobbies and creative activities individually or in groups, preferably under the guidance of some interested teachers,
7. they should aim at providing opportunities to pupils to apply practically the knowledge and skill acquired by them.
8. they should aim at the quickening of interest and training in efficient techniques of learning and study, and
9. they should be adapted to the 3 A’s — age, ability and aptitude of the students

Types of Teaching Method

However, the teacher needs to have a good understanding of the several methods of teaching available in presenting his lessons to students, having take into consideration the following factors according to Mohammed et al (2002):

- a) nature of subject matter to be taught and the objective to be attained,
- b) time available, number of students,
- c) facilities and materials available,
- d) interest and abilities of the teacher, and
- e) effectiveness of methods

Some of these teaching methods include: demonstration method, project method, problem-solving method, field-trip method, lecture method, Socratic methods and interactive method as discussed in subsequent paragraphs.

2.5.1 Demonstration Method

Demonstration method of teaching simply refers to a situation where the teacher shows how to do something and students watch him/her do it. It is also referred to as teacher-centred method of teaching. Aliyu (2000) considered Teacher-demonstration method as a method of teaching whereby all new subject matter is presented and explained by the teacher before it is studied from the textbook by the class. Following the explanation of the principle or along with it, one or more sample problems may be worked on the chalk board, showing the application of the principles to problem situation. It was further explained that under this method of teaching, students are not assigned to textbook reading or problems until the teacher is certain that the students have the necessary background to do the work with success and satisfaction. Colburn (2000) observed that this method allows the teacher to gain better understanding about how the student views the phenomena so as to modify their teaching accordingly. Cantrell (2004) grouped

demonstration method of teaching as a method that is leader-centred, leader-active, learner-passive and content-emphasis. The teacher demonstration method helps students to understand the concept that is being taught before they are required to perform any task. This reduces the likelihood of trial and error learning. Demonstration method is an instructional method in which the teacher shows and explains. It involves telling, showing, questioning and application. Omosewo (2004) defined demonstration method as a process of presenting or establishing facts or principles. It is a procedure of doing or performing something in the presence of others either as a means of showing them how to do it themselves or illustrate a principle. He added that demonstration helps to: illustrate a fact or principle, visualize processes, show materials or specimens, portray methods or techniques, create a problem situation, stimulate interest, finding information and evaluate pupils' achievement.

Sola and Ojo (2007) referred to the teacher-demonstration method as lecture-demonstration. They believe that a good demonstration is always accompanied by explanation which is usually a lecture. So they define lecture-demonstration method as a teaching technique that combines oral explanation with “doing” to communicate processes, concepts and facts. It is particularly effective in teaching a skill that can be observed. A skill educator may wish to both tell and show what steps to take in an educational process. Coffey (2009) said that demonstration can be used to provide examples that enhance lecture and to offer effective learning opportunities in classes. Again, when using demonstration method in classroom, the teacher performs the tasks step-by-step so that the learner will eventually be able to complete the same task independently. After performing the demonstration, the teacher's role becomes supportive to students in their attempts, providing guidance and feedback, and offering suggestions for alternative approaches.

Requirement of Good Demonstration

In order to conduct a good demonstration, certain things need to be considered. That is why Atamian (2001) stated that for any demonstration to be successful, the following points should be kept in mind:

- i. it should be planned and rehearsed by the teacher beforehand.
- ii. before actually starting the demonstration, a clear statement about the purpose of the demonstration be made to the students.
- iii. the teacher makes sure that the demonstration lecture method leads to active participation of the students in the process of teaching.
- iv. the demonstration should be interesting so that it captures the attention of the students.
- v. the teacher should write the summary of the principles arrived at in the course of demonstration on the blackboard.

Then the teacher should follow the following steps according to Atamain (2001):

- i. planning and preparation: A great care be taken by the teacher while planning and preparing his demonstration. He should keep the following points in mind while preparing his lesson (a) the subject matter (b) questions to be asked.
- ii. introduction to the lesson: The lesson should start with proper motivation of the students. The usual way through which the teacher can introduce the lesson is by telling some personal experience or incident of a sample and interesting experiment.
- iii. presentation: A good teacher should present his lesson in an interesting manner and not in a boring manner. To make the lesson interesting the teacher may not be very rigid to remain within prescribed course rather he/she should make the lesson as much broad based as possible. Constant questions and answers should form a part of every demonstration lesson.

- iv. blackboard summary: A good summary of important results and principles.

Advantages of Demonstration Method

The demonstration method has a number of advantages. Aliyu (2000) stated the following as part of the advantages of demonstration method of teaching:

- i. It gives students confidence. They turn to their textbooks which reduces the problem work with a feeling of assurance.
- ii. it uses the textbook as a teaching aid, not as the major instructional medium. The textbook becomes a reference source and supplements the class presentation.
- iii. it places upon the teacher the responsibility for teaching.
- iv. it permits the use of sound teaching principles. Bookkeeping words and terms may be related to student's experience, new meaningful experiences, provided, concepts dramatized and principles visualized.
- v. it places a premium on understanding as opposed to memorization. Copying is discouraged because students have confident in the ability to do the work on their own.

2.5.2 Project Method

The project method of teaching had its beginning in the United States in the 1920s, and it changed the way industrial arts was taught. There was somewhat a revolt, led by John Dewey, resulting in many changes. These changes brought on by Dewey represented a release from the formal and highly structured nature of academic learning in the United States at that time. Barlow also stated that project developed as a natural evolution from both practical and theoretical considerations (Howell, 2003). He further defined the project method as a teacher-facilitated collaborative approach in which students acquire and apply knowledge and skills to define and solve realistic problems using a process of extended

inequity. He added that projects are student-centred, following standards, parameters, and milestones clearly identified by the instructor.

Ajoma (2009) described the project method as a student-centre- method of teaching and learning in business education in which learners are allowed a great deal of involvement right from the beginning to the end of the project. The method enhances student's full participation and quick assimilation of skills. The use of the project method of teaching can help students to be innovative, thoughtful and creative, since they are fully engaged in the learning process. Howell and Mordini (2003) affirmed that the project method of teaching serves the interest of the students' best by utilizing problem - solving to encourage critical thinking, progressing through the steps of investigation, planning, testing, evaluating, and improving during their project fabrication. Also, Project Leads the Way (2003) noted that projects encourage creativity and give the students a sense of accomplishment, pride and self worth. It further stated the advantages of project method of teaching as follows:

- i. project can be very rewarding in terms of achieving behavioural objectives, as they demand knowledge, understanding, discussion and cooperation, analysis, experiment and evaluation.
- ii. project work has a strong element of discovery training in it, and learning by discovery is one of the most effective and valuable ways of motivating trainees who will enjoy finding out things for themselves.
- iii. projects can exemplify the principles already discussed in the class.

2.5.3 Problem Solving Method

Human beings face multiple dimensional problems in their lives and they try to solve these problems in a particular way in the light of their previously gained knowledge and experiences. In this regard, it is essential for the students to be prepared for future or

near future challenges by facing real life, or real like problems in their learning environment, and finding appropriate solutions of these problems. Bhardwaj (2000) saw problem solving as the process of applying a method-not known in advance to a problem that is subject to a specific set of conditions and that the problem solver has not seen before, in order to obtain a satisfactory solution. Similarly, Lambros (2002) affirmed that when we examine literature, it is seen that research studies focused on the use of problem based learning in elementary, secondary and higher education. According to Walker and Lofty (2003), each society expects from its education system that it enables the individuals to become effective problem solvers in their real life. Herrid (2003) observed that in the present era, problem based learning is extensively used nearly in all areas.

Orphan and Ruhan (2006) expressed that the problem solving method of teaching is an active learning process where learners learn according to their own needs and pace. It is in relation to the aforementioned statement that Snyder and Snyder (2008) stated that critical thinking skills are important because they enable students to deal effectively with social, scientific and practical problems. Simply put students who are able to think critically are able to solve problems effectively. Also, Ajoma (2009) opined that problem solving is an advanced method of teaching and learning, and it involves making observations. The root of problem-solving learning is found in Dewey's thoughts, that learning by experimentation or doing is more lasting (Ali, Hukamdad, Akhter and Khan, 2010). Actually, the problem solving is how to learn independently, it is the most convenient approach to achieve the aims of teaching learning process. Problem Solving can be referred to as a process of finding answers or approaching solutions creatively. This process requires the learner to be totally involved in the learning process. Downs (2010) defined problem-solving as the process of applying previously acquired knowledge to obtain a satisfactory solution to new and unfamiliar problems. The free encyclopaedia

Wikipedia (2010) defined problem-solving as a mental process and is part of the larger problem that includes problem finding and problem shaping. Consider the most complex of all intellectual function; problem solving has been defined as higher-order cognitive process that requires the modulation and control of more routine or fundamental skills. This means that students need to develop critical thinking abilities to be able to solve problems.

The importance of problem solving method of teaching cannot be over emphasized. Problem-solving method turns students from passive listeners of information receivers to active, free self-learner and problem solvers. It also shifts the emphasis of educational programs from teaching to learning. Eng (2001) opined that the aim of problem-solving learning is to design and deliver a total learning environment that is holistic to student-centred and student empowerment. Presenting students with a problem, give them the opportunity to take risks, to adopt new understandings, to apply knowledge, to work in context and to enjoy the thrill of being discoverers. Also, Daz-Iefebore (2004), and Kang and Flowren (2004) reported that research supports the premise that lecture and memorization do not lead to long term knowledge or the ability to apply that knowledge to new situations, hence, the importance of the problem solving method. They further stated that the practice of problem based learning is richly diverse as educators used problem solving method as an educational tool to enhance learning as a relevant and practical experience, to have students' problem solving skills and promote students' independent learning skill. The learning objective is not the reproduction, recall and learning of passively received learning material but the active and creative engagement of students in group work and in individual study, thus, transferring the skills and knowledge of teaching. Similarly, Tick (2007) stated that in the student-centred learning environment that is desirable for problem based learning, the central figure of the learning-teaching process is

the student. Another importance of problem-solving is noted by Snyder and Snyder (2008) that problem solving activities promotes critical thinking and problem-solving skills; active participation in the learning process including self direction, identification of own learning needs, team work, creative discussion, and learning from peers; and the integration and synthesis of a variety of knowledge.

The most important achievement of a teacher is to help his/her students to independent learning. In the use of problem solving method, the teacher acts just as facilitator, rather than a primary source of information or dispenser of knowledge. Roh (2003) argued that within problem based learning environments, teachers' instructional abilities are more critical than in the traditional teacher-centered classrooms, beyond presenting the subject knowledge to the students. Teachers in problem based learning environments must engage students in marshalling information and using their knowledge in applied and real settings. Snyder and Snyder (2008) said that critical thinking is what teachers need to teach their students so as to be able to utilize the problem-solving techniques effectively. Davis, Riley and Fisher (2003) observed that although business education students perceive critical thinking as an important skill, they typically do not know how to think critically and students are not born with the ability to think critically. Therefore, instructors who wish to integrate this skill in their classroom experiences must first model the behaviour (Hemming, 2000). Students must learn how to think critically before they can apply the skill to content scenarios. Modelling can be demonstrated in a discussion setting, asking a question and "walking students through" the process of critically thinking (Snyder and Snyder, 2008).

Haynes and Bailey (2003) in their research studies emphasized the importance of asking the right questions to stimulate students' critical thinking skills. Hemming (2000) also focused on integrating questioning techniques into class discussions to support an

educational environment where students can demonstrate and practice critical thinking skills. Sample questions from all these studies include the following according to Hemming (2000):

- i. what do you think about this?
- ii. why do you think that?
- iii. what is your knowledge based upon?
- iv. what explains it, connects to it, leads from it?
- v. what does it imply and presuppose?
- vi. how are you viewing at it?
- vii. should it be viewed differently?

These questions require students to evaluate the clarity and accuracy of their thinking as well as the depth and breadth of their thinking. To Bhardwaj (2000), Wood's problem solving model can be adopted. It is as follows:

Define the problem-

- i. the system:** Have students identify the system under study by interpreting the information provided in the problem statement. Drawing a diagram is a great way to do this.
- ii. knowledge and concepts:** List what is known about a problem, and identify the knowledge needed to understand (and eventually) solve it.
- iii. unknown(s):** Once you have a list of known, identifying the unknown(s) becomes simpler. One unknown is generally the answer to the problem, but there may be other unknowns. Be sure that students understand what they are expected to find.
- iv. units and symbols:** One key aspect in problem solving is teaching students how to select, interpret, and use units and symbols. Emphasize the use of units whenever applicable.

- v. **constraints:** All problems have some stated or implied constraints. Teach students to look for the words only, must, neglect, or assume to help identify the constraints.
- vi. **criteria for success:** help students to consider from the beginning what a logical type of answer would be. What characteristics will it possess?

Think about it

- i. “Let it simmer” use this stage to ponder the problem.
- ii. Ideally, students will develop a mental image of the problem at hand during this stage.
- iii. identify specific pieces of knowledge: students need to determine by themselves the required background knowledge from illustrations, examples and problems covered in the course.
- iv. collect information: Encourage students to collect pertinent information.

Plan a solution.

- i. consider possible strategies: Often, the type of solution will be determined by the type of problem. Some common problem-solving strategies are: compute; simplify; use an equation; make a model, diagram, table or chart; or work backwards.
- ii. choose the best strategy: Help students to choose the best strategy by reminding them again what they are required to find or calculate.

Carry out the plan.

- i. be patient: Most problems are not solved quickly or on the first attempt. In other cases, executing the solution may be the easiest step.
- ii. be persistent: If a plan does not work immediately, do not let students get discouraged. Encourage them to make a different strategy and keep trying.
- iii. Look back: encourage students to reflect. Once a solution has been reached, students should ask themselves the following question:

- iv. does the answer make sense?
- v. does it fit with the criteria established in step 1?
- vi. did I answer the question(s)?
- vii. what did I learn by doing this?
- viii. could I have done the problem another way?

This last step of looking back or reflecting is a very important aspect of the model, and as such students should give more attention to it. According to Downs (2010), the period after a problem has been solved has been identified as a key moment in time when significant learning can take place. It is what you do after you have solved a problem that really determines how much you learn from a problem.

Several issues have been raised by researchers as barriers or obstacles to the use of problem-solving method in our schools. Wong (2007) observed that the current educational trend is to standardize curricular and focus on test in the classroom. The emphasis on “teaching to the test” distracts the learning process from student-centered instruction and places the emphasis on the content. To him, if the focus is on learning, students should be given the freedom and responsibility to explore content, analyze resources, and apply information. Snyder and Snyder (2008) identified four barriers which often impede the use of problem-solving method (i) Lack of training, (ii) Lack of information, (iii) preconceptions, and (iv) time constraints. First, teacher often are not trained in problem solving methodology (Broadbear, 2003). Also, Scriven and Paul (2007) observed that elementary and secondary teachers know their content and receive training in the methods of instruction, but little if any of their training is devoted specifically to how to teach problem solving skills. Second, few instructional material provide critical thinking resources. Third, both teachers and students have preconceptions about the content that blocks their ability to think critically about the material.

Preconceptions, such as personal bias partiality, prohibit critical thinking because they obviate analytical skills such as being fair, open-minded, and inquisitive about a topic (Kang and Howren, (2004). Finally, time constraints are barriers to the use of problem-solving techniques in the classroom. Teachers often have a great deal of content to cover within a short-time period. Broadbear (2003) and Brodie and Irving (2007) observed that when the focus is on content rather than students learning, short cuts such as lectures and objective tests become the norm. Lecturing is faster and easier than integrating-project-based-learning opportunities, objective tests are faster to take and grade than subjective assessments.

2.5.4 Field Trip

Field trip can be referred to as excursions. This is a method of teaching whereby students are given the opportunity to have a direct contact with real life situation. Students here are taken out of the classroom by their teachers, with the permission of the school authorities to visit places like the banks, factories, processing companies and the like, so that students can gain as wide range of experience as possible. Abimbola (2004) explained that field trip entails going outside the classroom for the purpose of making relevant observations, collections, classifications and manipulations. The author further stated that, field excursions are useful in realizing both cognitive and particularly affective objectives. They can also be usefully employed for teaching aims, concepts, principles and have been found especially so for summarizing and consolidating materials initially presented by more normal methods.

In line with this, Ajoma (2009) affirmed that field trip is a method in which students are taken out of the classroom to an industrial or commercial environment to see things for themselves. Ajoma (2009) added that it is a special arrangement between the school and the industrial or commercial personnel for students to visit and get familiar with

the operations and machines of these organizations such as production processes relevant to what they have learnt theoretically in the classroom. This method allows students to concretize their knowledge of what is taught in class, improves school/industry cooperation and generally updates knowledge about the operations of the organizations visited.

The use of field trip as a method of teaching has a number of advantages. For example, it makes students to become more aware of their environment. It extends classroom learning through reality. It fosters school-community relationships and provides students with practical experiences of real life situation of what work environment looks like. Ifeyiuche (2000) opined that the studies conducted in Nigeria on the use of field trips showed that field trips stimulate students' interest in learning and allow for more retention of knowledge, it also enable the students to see things in their natural situation, translate classroom theory into practice.

According to Siagh and Rana (2004) field trip has the following advantages:

- i. The field trip may provide the students an opportunity to apply text book knowledge in an interpretation of a local phenomenon;
- ii. The field trip may permit students to observe and study something, which cannot be brought into the classroom.

Similarly, Omosewo (2004) summarized the advantages of field trip as follows:

- i. students may develop a sense of better relationship with each other and the teacher,
- ii. students are able to make use of almost all their senses for learning, and
- iii. activities that are too noisy to do in the classroom are possible during field trips.

However, Siagh and Rana (2004) observed that the field trip is an infrequently used strategy which probably ranks second to the lecture strategy. Similarly, Omosewo (2004) noted some limitations of field trip. He said that the field trips are usually expensive to make and consume large amount of time in travelling. Other reasons for the non-use or

limitations of field trip according to Ifeyiuche (2000) are firstly, the secondary school timetable, when a teacher has students for only one period a day, it is difficult to make arrangements which do not create conflicts with other classes. Secondly, fear of accident and other hazards. Teachers prefer to stay on the safe side by avoiding the use of field trip in their teachings. Lastly, lack of fund has also been identified as another factor that hampers the use of field trips in schools.

2.5.5 Lecture Method

This method of teaching is referred to as teacher-centred method of teaching because the teacher does the talking while students listen. Aliyu (2000) opined that lecture method is a situation where the teacher talks and tells while students listen. The lecture method of teaching irrespective of the different views of authors, is still the most widely used form of teaching. Ediger (2001) viewed lecture method to include explanation because there is a one-way street of communication involved. The message then goes from the instructor to students. To him, even for primary school students, lectures (explanations) are essential to students achievement, development and growth. Abimbola (2004) was of the view that the lecture method is still the best method for teaching students new concepts and principles. Also, in the view of Siagh and Rana (2004), the lecture method has received more criticism than any teaching strategy, yet it continues to be used extensively. They believe that the lecture method is undoubtedly one of the most efficient means of purveying large quantities of information in short period of time. Ajoma (2009) described the lecture method as a process whereby teachers give a talk on a subject to students, while the students listen and think about the lesson taught. To her, though the lecture method has the advantage of being useful in a large class and in advanced level of learning, it should not be encouraged in the secondary schools.

The advantages of this method of teaching as enumerated by Abimbola (2004) include the following:

- a. it is economical because it saves time and effort.
- b. it is a good strategy for teaching large classes especially these days of large student enrolment in schools
- c. it is applicable for teaching a range of school subjects, it is, therefore, indispensable.
- d. the method is appropriate for communicating information to students with reading problems.
- e. well-organized lectures are excellent strategies for reviewing and expanding subject content, and for explaining difficult concepts.

2.6.6 Socratic Method

The Socratic Method is over 2400 years old and is reportedly founded on Socrates' belief that lecture was not an effective method of teaching all students. According to Copeland (2005), Socrates valued the knowledge and understanding already present within people and thought, that using this knowledge could potentially be beneficial in advancing their understanding, by helping students examine their preconitions and beliefs while at the same time accepting the limitations of human thought. Socrates believed students could improve their reasoning skills and ultimately move toward more rational thinking and ideas more easily supported with logic.

In the Socratic method of education, teachers engage students by asking questions that require generative answers. Ideally, the answers to questions are not a stopping point for thought but rather a beginning to further analysis and research. The Socratic Method can be used at any grade level and with all subject areas, and lessons can be adapted to fit a changing society. Teachers can use the Socratic Method in a variety of subject areas and

across grade levels in order to challenge students to examine both contemporary and historical issues.

In modelling the practice of Socrates, the teacher questions students in a manner that requires them to consider how they rationalize and respond about topics. Copeland (2005) explained that it is important for teachers to clarify that these questions are not intended to create an environment of judgment, but rather to help students examine their attitudes, beliefs, knowledge and logic. The goal of the Socratic Method is to help students process information and engage in deeper understanding of topics. Most importantly, Socratic teaching engages students in dialogue and discussion that are collaborative and open-minded as opposed to debate, which is often competitive and individualized. Ideally, teachers develop open-ended questions about texts and encourage students to use textual evidence to support their opinions and answers. In the Socratic method, the teacher uses questions to guide discussion around specific learning goals. It is imperative for teachers to establish guidelines to help students understand their roles and responsibilities in the Socratic discussion. Socratic questioning is a systematic process for examining the ideas, questions, and answers that form the basis of human belief.

The ultimate goal of the Socratic Method is to increase understanding through inquiry. Obtaining an enhanced freedom to think through discarding pre-existing bad ideas is the penultimate goal of the classic style of the Socratic Method. The only person who cannot think is the one who thinks she already knows. Through the deconstruction of existing ideas, the classic style of the Socratic Method frees people to think about basic principles and ideas with an enhanced sense of necessity and clarity. In this style of the Socratic Method, for example, there is no point in getting deeply into complicated theories of particular applications of justice in society until one can answer a much simpler question like, What is justice?. In this case, the Classic Socratic Method functions to tear down

existing ideas of justice. This works by exposing unknown or unacknowledged ambiguity and complexity, which makes the respondent realize she has more thinking to do. The 'Socratic Effect' provides the respondent with the opportunity to rethink justice, or whatever other quality or idea is in focus, after having their previously existing ideas discarded with their full agreement on the basis of their own answers to questions.

There are basically two types of Socratic Method, according to Copeland (2005), they are:

1. Classic Socratic Method:

The Classic Socratic Method uses creative questioning to dismantle and discard pre-existing ideas and thereby allows the respondent to rethink the primary question under discussion (such as 'What is virtue?'). This deconstructive style of the Socratic Method is 'Socratic' precisely to the extent that the weight of the actual deconstruction of a definition rests in the respondent's own answers to more questions, which refute the respondent's previously stated answer to the primary question.

2. Modern Socratic Method:

The Modern Socratic Method is a process of inductive questioning used to successfully lead a person to knowledge through small steps. This knowledge can be specific data, training in approaches to problem solving, or leading one to embrace a specific belief. The type of knowledge is not as important as the fact that, with the Modern Socratic Method, the knowledge gained is specifically anticipated by the Socratic questioner. The modern style is not deconstructive, but constructive, this is the most widely used style today because it is the easiest to employ. It is much easier to lead a person, by baby steps, to specific knowledge through a series of questions than it is to force a person to abandon a cherished idea and rethink an important or controversial issue just by asking creative questions. The Modern Socratic Method is not called modern because it

was invented recently, but because it is the most popular usage in modern times. The Modern Socratic Method has historical precedent in the dialogues of Plato.

The successful application of the Socratic Method provides people with the realization that if they work hard, they can either create a better belief or idea, or they can, in true Socratic fashion, feel good about knowing what they do not know. We all have experiences which make us cautious and fearful about questioning. Through the use of the Socratic Method, we can offer a balancing positive experience of the act of asking questions. This can inspire people to eagerly embrace the heart of critical thinking, which is the freedom and will to question without fear of any kind. Such an embrace can only strengthen their capacity for critical thought. Learning to love the experience of questioning gives psychological strength to our will to question. Learning to love the experience of having our own beliefs and ideas questioned and even discarded gives us an inspired vision of our power to work for our own improvement. If we see questioning as a sacred activity that is vital to our own safety (by safeguarding our integrity and growth), we are less afraid to question the world. If we develop a preference for questioning our own preferences, we find a true Socratic spirit within ourselves that will empower our critical thinking for life. The successful use of the Socratic Method gives those who experience it with the living heart of critical thinking.

With the Classic Socratic Method there is no guarantee of a correct answer. The typical result in Socratic dialogue employing the classic style is not to find an answer to the main question. At that point, the benefit of the Classic Socratic Method is to help the respondent to, in true Socratic fashion, know what they do not know. This becomes the whole value of the Classic Socratic Method in the absence of viable answers. In the Modern Socratic Method, a correct answer can be known by the Socratic questioner. The Classic Socratic Method places the Socratic questioner in the position of being totally

ignorant, and by necessity, a student of the respondent. The Modern Socratic Method puts the Socratic questioner in the position of a teacher who knows the answer (as in the case of the geometry experiment) or at least has a constructive agenda of his/her own (as in Plato's Republic).

However, Socratic Method of teaching is sometimes referred to as questioning method. Fajemidagba (2004) also expressed that Socratic Method is translated to mean "question and answer" method. The question and answer was explained thus: "the teacher asks a question: one student answers; the teacher reacts and asks another question which is responded to by a second student, and so forth". The method was believed to be extremely valuable as a way to guide developmental thinking, to stimulate creativity, problem solving, to initiate discussion and to stimulate quick recall of requisites needed for the day's lesson. Siagh and Rana (2004) reported that questioning is an important part of the teaching process without which no teaching can be effective. They went further to state its advantages. First is that the teacher can easily know through the questions whether his students have followed him or not. Second is that it keeps the students alert and, therefore, keeps their attention intact. Besides, good questions can generate healthy discussions that may lead to a better understanding of the material by the students. Questioning breaks the passivity and monotony that often pervade in a class as most teachers use lecture method only. Mishra (2007) asserted that posing questions can be an effective technique. The author further gave the following tips for the effective use of questions:

- a. wait long enough to indicate that you expect students to think before answering. Some students know that if they are silent, the teacher will give the answer.
- b. solicit the answer from a volunteer or a selected student.
- c. determine the students' confident level as you listen to the answer.

- d. solicit alternative answers or elaboration to provide material for comparison, contrast, and assessment.
- e. direct the ensuing discussion to the comparison, evaluation, and extension of the offered answers rather than simple validation or refutation of right and wrong answers
- f. pose a second or follow-up question to continue the exploration.

From the foregoing it could be deduced that the Socratic (questioning) method could be combined with any other method of teaching. Fajemidagba (2004) was of this view that, the question and answer method can be used effectively in combination with every other method.

2.6.7 Interactive Teaching Method

Interactive teaching, according to Abrahason (2013), is just giving students something to do, getting back what they have done, and then assimilating it yourself, so that you can decide what would be best to do next. There are several possible causes why students' learning may fall short of expectations in such a situation. They may, not understand a crucial concept which is a pathway into the lecture and so what follows is unintelligible. They may be missing prior information or not have a good understanding of what went before, so the conceptual structures on which the teaching is based are absent. They may lack the interest, motivation, or desire to expend the mental effort to follow the presentation, understand the arguments, make sense of the positions, and validate the inferences. However, whatever the cause, without interacting with the students (in the simplest case by asking questions), a teacher has no way to know if his//her efforts to explain the topic were successful.

There are three distinct reasons for interactive teaching as pointed out by Abrahason (2013). First it is an attempt to see what actually exists in the brains of your students. This

is the "summative" aspect. It is the easiest aspect to understand and it is well described in the literature, but it is far from being the only perspective. The second reason is "formative", where the teacher aims through the assigned task to direct students' mental processing along an appropriate path in "concept-space". The intent is that, as students think through the issues necessary in traversing the path, the resulting mental construction that is developed in the student's head will possess those properties that the teacher is trying to teach. As Socrates discovered, a good question can accomplish this result better than, just telling the answer. The third may be termed "motivational". Learning is hard work, and an injection of motivation at the right moment can make all the difference. One motivating factor provided by the interactive teacher is the requirement of a response to a live classroom task. This serves to jolt the student into action, to get his brain off the couch, so to speak. Additional more subtle and pleasant events follow immediately capitalizing on the momentum created by this initial burst. One of these is a result of our human social tendencies. When teachers ask students to work together in small groups to solve a problem, a discussion ensues that not only serves in itself to build more robust knowledge structures, but also to motivate. Abrahason (2013) outlined various methods of interactive teaching as follows:

Interactive teaching method 1: whole-class discussion

1. Orientation

- a. Provide the discussion topic well in advance.
- b. Clearly describe the question, problem, dilemma or proposition.
- c. Explain how students are to prepare for the discussion. For example, provide questions for students to investigate before the discussion, or students can prepare their own questions and responses.

d. Explain how the discussion will be conducted and the 'rules' for discussion. For example: listen attentively, remain objective, make relevant contributions.

e. Encourage students to think deeply about one another's contributions.

2. Engagement

a. Develop an environment where students feel secure in expressing their ideas.

b. Present a clear question to focus the discussion.

c. Start by asking students to define terms and concepts.

d. Ask extra question to guide the discussion as necessary.

e. If necessary, help students by providing extra information to clarify a point or overcome a hurdle but do not dominate the discussion or students' thinking.

f. Wait for each student to answer the question.

g. Keep the discussions moving by paraphrasing, re-stating, inviting elaboration and asking for examples.

h. Encourage questioning or challenging of ideas and sources of information.

i. Refocus discussion if students' contributions are irrelevant or inconsistent with the discussion's academic purpose.

j. Keep a progressive record of the key points of the discussion, for example, by writing on the board or other visual means.

k. Close discussion by summarizing, foreshadowing or evaluating.

3. Debrief

a. Allow time for students to make their own notes about the discussion. They could use the teacher record as a guide.

b. Facilitate students' reflection on what they learnt, for example, about their values about the topic.

Interactive teaching method 2: cooperative learning

1. Planning

- a. Plan across the year to start with small, highly-structured cooperative tasks and build into more complex tasks. For example, students work in pairs until they have the skills to work in larger groups.
- b. Plan for students to take on diverse roles, so all students develop the intended range of skills. Students can take on a role within a single task or for a set of tasks across the year.

2. Orientation

- a. Define the topic and the expected outcomes.
- b. Form groups of students comprising two to six members. Ensure groups are diverse (gender, ability, culture, etc).
- c. Develop students' skills to help each other learn, for example, how to give clear explanations and how to ask thought-provoking questions.
- d. Provide clear and simple outlines of the team roles.
- e. Allocate roles (or let students allocate the roles).
- f. Clarify each team member's responsibilities: individual responsibility for their part of the learning as well as group members' responsibility for achieving the group goal.
- g. Establish team rules that promote mutual respect and responsibility among members.
- h. Suggest how teams might get started and how they might develop a plan of action.

3. Engagement

- a. Allow students to work together to achieve their common goal.

- b. Circulate to give help, to monitor the activities and learning, and to make notes of what needs to be dealt with after the group sessions have finished.
- c. Allow groups to manage minor problems by themselves.
- d. Reinforce collaborative behaviours.

4. Debrief

- a. Facilitate sharing of findings if appropriate.
- b. Allow students time to reflect on:
 - c. their learning and how they learnt,
 - d. how well the group is functioning,
 - e. how effectively they are performing in their role.

Interactive teaching method 3: peer partner learning

1. Orientation

- a. Outline the topic and the expected outcomes of the peer partner learning.
- b. Introduce and model peer partner learning so that students are familiar with the expectations of the two roles. The 'doer' performs a task and the 'helper' observes and provides feedback.
- c. Provide necessary support so that the partners can work independently. For example, spend time building their capacity to ask thought-provoking questions and provide feedback.
- d. If necessary, give students the opportunity to practise their roles.

2. Engagement

- a. Allocate the 'doer' and 'helper' roles and explain at what point the roles will be reversed.
- b. Give students the task and, if necessary, a work plan.
- c. Discuss and clarify the task and work plan.

- d. Provide a structured guide for the 'helper' to guide what they should be looking for when providing feedback to their peer. Use language that students could use in their discussions.
- e. Circulate to provide assistance
- f. monitor the activities and learning
- g. make notes of what needs to be dealt with after the partner sessions have finished.
- h. Allow partners to manage minor problems by themselves.
- i. Reinforce collaborative behaviours.

3. Debrief

- a. Encourage students to reflect on what worked well and what they would do differently next time.
- b. Check for understanding of the intended learning.

Advantages of Interactive Learning Environment

Interactive learning in the classroom helps students prepare more successfully for the outside world than those who do not. Engaged learners who actively participate in their own education are mostly apt to remember more from a lesson and then transfer newly acquired skills to different situations. Interactive learning in a classroom is to maintain a teaching style, like the Socratic Method, that encourages healthy debate between students and the teacher. Although it may sound simple, it is hard to actually foster an atmosphere in which students feel free to question authority because they fear reprisal or embarrassment. The development of true critical-thinking skills, however, requires just such an open and a honest exchange of ideas. Discussion in class is one of the interactive learning during lectures. When the teacher asks his/her students to discuss about a specific topic in class, it will help to motivate students toward further learning, to allow students to apply information in new settings, or to develop students' thinking skills, then discussion is

preferable to lecture. Students are able to express their opinions during the class, they will have chance to talk in front of their friends and lecturer. So, it will help them to gain self confidence to talk. Interactive environment is good for the learners to present themselves in front of everyone as this is the time to train them to be courageous enough for their future work or career presentation. It motivates students and helps them to improve their communication skills with people, so they can be more active during class. Furthermore, it allows teacher to make effective use of classroom resources, teachers will be able to analyze his/her students learning capacity easily. The feedback from student will be as fast as possible (Yunus 2011).

These techniques have multiple benefits: the instructor can easily and quickly assess if students have really mastered the material, and plan to dedicate more time to it, if necessary. The process of measuring student's understanding in many cases is also practised for the material. In most cases, students do not actually learn the material until asked to make use of it in assessments such as these. Finally, the very nature of these assessments drives interactivity and brings several benefits. Students are revived from their passivity of merely listening to a lecture and instead become attentive and engaged.

2.6 Empirical Studies

For the purpose of this study, the following empirical studies were reviewed:

Udoh (2002) conducted a research on effects of lecture period and automotive device on the performance of low achievers in Introductory Accounting in Ahmadu Bello University campuses, Zaria. The major objective of the study was to find out whether the morning or afternoon period as well as the use of automotive device are more conducive for the learning and teaching of accounting to low achiever. With focus to the research topic, six (6) specific objectives were formulated and in line with each specific objective, six (6) research questions and six (6) null hypotheses were postulated. The research design

adopted was experimental design, the population for the study comprised of all the 200 level business education undergraduate students in ABU, Zaria and Federal College Education, Kano campus. From the total population of 220 students, eighty (80) students were selected as sample using stratified random sampling method. The instrument for data collection was pre and post-test-item, questions for both tests was drawn from past question papers of WAEC, pre-test was objective while post test was theoretical.

Split-half method was used in testing for their reliability and the reliability coefficient was 0.75. One way analysis of variance (ANOVA) was used in testing null hypotheses 1, 2 & 5 while Pearson's Product Moment Reliability (PPMR) along with t-test was used in testing null hypothesis 3, 4 & 5. All hypotheses were tested at 0.5 level of significant. The result of the findings among others showed that good performance by low achievers in introductory accounting did not depend on lecture period and that the use of automotive device did not help students to perform better in introductory accounting. Based on the research findings, it was concluded that other factors affecting learning, apart from lecture period, can be put into place. Some recommendations were made among which is that, teachers should be able to apply series of teaching methods that could provide room for both fast and slow learner in teaching introductory accounting.

The present study is similar to Udoh's study in the following areas. The research design for both studies was an experimental design, instrument for data collection was pre-test and post-test items, and for both studies, questions were drawn from WAEC past question papers. Regarding to reliability of the instrument, both studies adopted split-half method in testing reliability coefficient of pre-test objective questions. Both studies focused on students academic performances. Meanwhile, the present study differs from Udoh's study in the following areas. The location for the present study was Katsina, Katsina State while the location for the past study was Zaria, Kaduna State. The

population for the present study were 1,077 SS II secondary school students both male and female while the population for the past study were all 200 level Business Education undergraduate students at tertiary institution. Sample size for the present study was ninety (90) students and sampling procedure used was simple random sampling method. The past study sample size was eighty (80) and the sampling method adopted was stratified random sampling. The present study used two statistical methods namely: the independence t-test and analysis of variance (ANOVA) in testing null hypotheses. The past study adopted three statistical methods in testing null hypotheses namely: analysis of variance (ANOVA), PPMR and t-test.

The findings of the past study guided the researcher in carrying out the field experimental work. Udoh's study did not identify any particular method which could enhance students' performance in Accounting. The present study will determine which of the three methods of teaching will enhance students' performance in Accounting.

Another research was conducted by Raymond and Ogunbamru (2005) on the comparative analysis of two methods of teaching Financial Accounting at Senior Secondary school in Okitipupa Local Government Education Area in Ondo State. The population of the study comprised all 22 senior secondary two (SSII) Financial Accounting students with the population of eight hundred and twenty (820) students. Purposive sampling technique was used to select schools for the study. The research design adopted was the quasi-experimental design. Two types of instruments were employed for data collections which were instructional package for financial accounting (IPFA) and financial accounting achievement test (FAAT). A test-retest method was used to estimate the reliability of the instrument which gave a reliability coefficient of 0.63. Four research questions and four null hypotheses guided the study, the relevant null hypotheses were tested using inferential statistics such as t-test at 0.05 level of significance. Finding of the

study showed a significant difference in the mean performance score of students taught with guided discovery method and students taught with lecture method of instruction. Based on the research findings, it was concluded that the use of guided discovery method in place of lecture method will improve students' achievement in financial accounting. Recommendations were made which include, among others, the educational sector should improve on training teachers in the use of effective instructional method in the classroom, especially in the use of guided discovery in financial accounting instruction.

The present study is similar to the past study under reviewed in that both studies aimed at analysing the effectiveness of using two methods of teaching financial accounting in secondary schools. Also, both studies adopted mean and standard deviation for mean achievement score analysis and purposive sampling method in selecting the experimental schools. Meanwhile, the present study differs from the study being reviewed in that the present study was field experiment and covered all public secondary schools offering financial accounting in the entire education inspectorate division in Katsina State, whereas the study being reviewed adopted Quasi-experimental design and covered only one local government in Ondo State. The present study also differ from the past study in the following areas: the present study is located at Katsina State while the location for the past study is in Ondo State. Population for the present study comprised of 1,077 SS II students offering financial accounting while population for the past study comprised of 820 SSI1 students offering financial accounting. The sample size for the present study comprises of ninety (90) students, that is, thirty students per group of three and they were selected with the use of hat and draw random sampling while the sample size for the past study was thirty three (33) students for the experimental school and thirty students for control school. The present study compared the effectiveness of three teaching methods on students' performance in accounting while the past study compared the effectiveness of two teaching

methods on students' performance in accounting. Also, the present study adopted one type of instrument for data collection while the past study adopted two types of instruments for data collection.

The present study used split-half method and Spearman- Brown Correlation Coefficient in testing the reliability of the instrument while the past study adopted test-retest method and PPMR in testing reliability of the instrument. In testing of hypotheses, the present study used two statistical methods to test null hypotheses while the past study used one statistical method. However, the study enables the researcher to acquire broader and wider knowledge on research design, sample and selection, measuring instrument and data analysis. Ramond and Ogunbamru (2005) failed to use equal number of students for the experimental and control group, as this may have significant influence on the result of the study. This study used equal number of students for both experimental and control groups.

Another related study was conducted by Babat (2005) on major constraints in the teaching of Financial Accounting in secondary schools in Kaduna State. The major objective of the study was to determine the major constraints in the teaching of financial accounting in secondary schools in Kaduna State. Seven specific objectives were state and in line with each objective, seven research questions were formulated and three null hypotheses were postulated. Survey research design was used for the study and the total population for the study was one hundred and thirty two (132) accounting teachers both male and female in government secondary schools in Kaduna State, the entire population were used for the study. Structured questionnaire was used as instrument for data collection which consists of eight (8) sections, test-retest method was used in testing the reliability of the instrument and Pearson Product Moment Correlation was used to analysis the test scores. The study used frequency, mean and standard deviation for data analysis and adopted t-test statistics for testing the three null hypotheses at 0.5 level of significance.

The research findings of the study, reviewed that, lack of qualified accounting teachers was a major constraint in the teaching of financial accounting in secondary schools in Kaduna State, based on this , the study recommended that, ministry of education should ensure that qualified teachers are employed in secondary schools in Kaduna State.

The present study is similar to the study under review in the area of institutional level, both studies used only government own secondary school for the studies and focused on same subject area, that is, financial accounting. The past study benefitted the present study in literature review. Meanwhile, the present study is differ from the past study been reviewed in the following areas; the present study aimed at determining the most effective method in teaching financial accounting in secondary schools using three methods of teaching. While the past study under review aimed at assessing the major constraints in the teaching of financial accounting in secondary schools. The research design for the present study was field experiment, whereas the past study was a survey research design. The population for the present study comprises of only SS11 students' offering financial accounting, while the population for the past study comprises of only financial accounting teachers. The present study used split-half method to test instrument for reliability and Spearman-Brown statistic for analyzing test score. While the past study adopted test-retest method to test instrument for reliability and Pearson Product moment Correlation (PPMR) to analyzed test scores. The present study used two types of statistical methods to test relevant null hypotheses, while the past study been reviewed used one type of statistical method to test relevant null hypotheses. Meanwhile, Babat did not involved students' in the study. This study focused on students' as they are the direct beneficiary of effective teaching and learning.

A research work conducted by Mohidin, Jaidi, Sang and Osman (2009), on effective teaching methods and lecture characteristics on Accounting Students at University

of Malaysia, Sabah (UMS). The study was to enlighten the perceptions of the undergraduate Accounting students on the teaching methods and lecturer characteristics that they considered as effective in their learning process. The research design adopted was the descriptive survey method. The population for the study was the entire students studying accounting at the school of Business and Economic, UMS, excluding the fourth year students. A total number of one hundred and fifty (150) copies of the questionnaire were given out to students to fill but one hundred and seven (107) were returned and used for the study. The independent variables consisted of teaching methods and lecturer characteristics.

The following alternative hypotheses guided the study:

- a. there is a significant relationship between the learning-centered approach and effective teaching.
- b. there is a significant relationship between the teaching-centered approach and effective teaching.
- c. there is a significant relationship between the knowledge expertise of the lecturer and effective teaching.
- d. there is a significant relationship between the attitude of the lecturer and effective teaching.
- e. there is a significant, relationship between the personality of a lecturer and effective teaching.

The findings revealed that all independent variables had a positive influence in effective teaching perceived by students especially when single regression was employed. The results was slightly different when multiple regression was used, out of five independent variables, only four showed significant positive relation toward teaching effectiveness as perceived by students. The analysis further explained that lecturer

characteristics also played an important role in determining the effective teaching especially in accounting subjects.

The present study is similar to the past study being reviewed in that both studies aimed at determining the effectiveness of using different methods of teaching Financial Accounting in order to ascertain the most effect method. The previous researchers made very good efforts in the research work though the study covered only one university. The researchers would have used a wider area since it was a survey work. The present study, however, differs from the past study under reviewed. The present study is a field experiment research whereas the study under reviewed was descriptive survey research. In addition, the scope of educational institution of the present study would be all public secondary schools in the entire education inspectorate division in Katsina State Metropolis, Nigeria, whereas the past study being reviewed covers University Students in Sabah, Malaysia

A related research was conducted by Olowodun (2009) on the strategies for effective teaching of accounting in senior secondary schools in Kaduna State. A descriptive survey design was used for the study. The study involved a population of one hundred and five (105) Accounting teachers in Seventy (70) public and private senior secondary schools in five (5) Education Divisions in Kaduna State. The entire population was used. The research question that guided the study was:

- a. what planning strategies for effective teaching of accounting in senior secondary schools are utilized in Kaduna State?
- b. The null hypothesis which was tested at 0.05 level of significance was:
- c. there is no significant difference in the mean responses of urban and rural teachers regarding planning strategies for effective teaching of accounting utilized in senior secondary schools in Kaduna State. The researcher used a structured questionnaire

with fourteen (14) items to elicit information from accounting teachers in the urban and rural areas in Kaduna State. The questionnaire was scored using the four-point Likert rating scale. The statistical tool for testing the null hypothesis was t-test.

Based on the data collected and analyzed, the findings of the study included:

- a. learning activities must be well planned so as to achieve their objectives.
- b. learning experience be planned at the level of maturity and ability to the learner
- c. adequate preparation ensures effective teaching
- d. well planned activities should contain materials and teaching aids needed to carry out the plan.
- e. the use of instructional materials should be planned by the teacher
- f. the teacher should structure instruction to meet the student individual needs.

The present study differs from the study being reviewed in that, it was a field experiment whereas the past study adopted descriptive survey design. The population of the study for the present study comprised of only Public Senior Secondary School Students offering Financial Accounting in four education inspectorate divisions in Katsina State, whereas the past study being reviewed comprised financial accounting teachers from both public and private secondary schools in five education inspectorates in Kaduna State. However, the study helps the researcher to obtain current knowledge on strategies for effective teaching of financial accounting which will serve as guide during experimental work.

The previous researcher conducted a good research relating to the present study since both studies aimed at improving the teaching of Financial Accounting in Senior Secondary School. However, the students input on the strategies for effective teaching of Accounting would have been considered. This is because the students are the direct

beneficiary of effective teaching in learning process. This study used students' scores to determine their performance in accounting using three teaching methods.

Another related research study was carried out by Adamu (2010) on the influence of teacher's methodology on performance of accounting students in Nigerian University. Two research questions were raised among which is "To what extent does teaching method enhance an effective teaching and learning of Accounting in Nigerian Universities. Two null hypotheses were formulated and the research design adopted was descriptive survey design. The population of the study consisted of 59 lecturers and 650 students from six Nigerian Universities running Business Education programme. Instrument for data collection was four points Likert scale structured questionnaire of fourteen (14) items. Pearson Product Moment Correlation was used for testing the null hypotheses and the reliability coefficient stood at 0.05 level of significance. The result of the study revealed that lecturers' methodology facilitated the teaching and learning of Accounting. Recommendations were made among which is that an accounting lecturer should adopt assignment method of teaching as this will aid students and the lecturers to improve the potentials for success in accounting.

This research work is similar to the past study since both aimed at determining the effective methodology for teaching accounting. Though there is a little difference between the present study and the past study. The present study covered all the public senior secondary schools SS11 students offering financial accounting in the entire education inspectorate in Katsina State, whereas the past study covered both students' and teachers' in Nigerian Universities. The research design adopted in the present study was field experiment while the past researcher adopted descriptive survey design. However, the past study benefited the current work in literature review and helped the researcher to identify the extent to which teaching methodology adopted in teaching accounting can influence

student's performance and teacher effectiveness. Although, the past researcher conducted a good research work, the study would have indicated the location of the six universities been covered so as to guide other researchers for further study. The present study indicated the location of all public secondary schools been used.

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

The present study is similar to Ibrahim's study as both studies employed Financial Accounting Achievement Test (FAAT) as an instrument for data collection and the experimental group for both studies comprised of three groups. Meanwhile, the present study differs from the study being reviewed in that; the study was field experiment whereas the study being reviewed adopted quasi-experimental design. The target population for the

present study comprised of SS II secondary school students both male and female offering financial accounting from eight (8) public schools in Katsina State, Nigeria. While the target population for the past study under reviewed were 100 level business education students offering business education from eight (8) federal universities in Nigeria. Also, the present study used two types of statistical test to test the null hypothesis and the past study under reviewed adopted one statistical method in testing the hypotheses. The present study experiment was conducted within two public secondary schools while the past study used three tertiary institutions.

Findings of the past study guided the researcher in carrying out the field experimental work. Ibrahim's study did not indicate the type of sampling procedure used in selecting the three universities from the eight universities offering business education in Nigeria. The present study indicated sampling method used in selecting GCK Day Wing, Katsina as the experimental school and GGTCC Charanchi as the control school from the eight public schools in Katsina State offering financial accounting.

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

findings, it was recommended that ICT should be integrated into the curriculum of business education to enable students develop skills and be computer literate.

The present study is similar to the past study being reviewed, as both studies aimed at analysing students' performance in accounting. It is also similar in the area of data analysis, both studies adopted mean and standard deviation for data analysis. However, the present study differs from the past study under review in the area of institutional level. The present study focused at secondary school students while the past study focused on undergraduate business education students in universities. Also, the present study adopted field experiment design while the past study being reviewed adopted descriptive survey design. The population for the present study comprised of both lecturers and students of business education accounting option. Present study utilized FAAT as instrument for data collection while the reviewed work used a structured questionnaire as instrument for data collection. T-test and ANOVA statistical method were used to test null hypotheses in the present study while the past study under reviewed adopted PPMR in testing all hypotheses. Meanwhile, the past study benefitted the current study in the area of literature review. Magaji (2011) did not indicate names and numbers of federal university covered in the study. The present study indicated total number of public secondary schools offering financial accounting in Katsina State as at the time of this study.

2.7 Summary of the Reviewed Literature

This chapter reviewed literature related to the study. The review highlighted the theoretical framework of Financial Accounting. Also, learning and teaching styles which of course differ from individual to individual were identified. It went further to highlight the objectives of methods of teaching, general principles for effective teacher and the importance of effective teaching which has to do with the ability of the teacher to select and use appropriate methods of teaching that will bring about the achievement of the stated

objective of the lesson/subject. Some teaching methods available to the Financial Accounting teachers were identified in the review namely: Demonstration Method, Problem-solving Method, Field-trip Method, Lecture Method, Socratic Method and Interactive Method. Furthermore, the chapter discussed in detail the Socratic method of teaching which allows the learner to use their previous knowledge to handle new problems and the Interactive method where both students and teacher contribute to the achievement of the objective of the lesson. Finally, eight empirical studies related to the present study were reviewed. From the empirical studies, the past researchers did not identify any particular teaching method which could enhance students' performance in Financial Accounting. The current study closes this gap by finding out the influence of using two teaching methods in teaching financial accounting and determines the students' performance for each method in order to ascertain the most effective method.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter presents the approach to be used in carrying out the study under the following sub-headings:

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

3.1 Research Design

Quasi experiment design was used for the study, because the study lacked randomization. The design, according to Yusuf (2013) means ‘to some degree’ or ‘almost’. The design is identical to experimental design as is involved pre-test and post-test, but lacks ingredients of randomization

3.2 Population for the Study

The population for the study comprised of 1077 SS11 students both male and female from eight public senior secondary schools in the four education inspectorate divisions offering Financial Accounting in Katsina State for 2014/2015 academic session.

Table 3.1 shows the breakdown of the population for the study.

Table 3.1 Population for the Study

S/No	Schools	School type	Male	Female	Total
1.	G.C.K (pilot) Katsina	Male	121	Nil	121
2.	G.C.K Day Wing Katsina	Mixed	215	218	433
3.	G.G.T.C.C Charanchi	Female	Nil	65	65
4.	G.S.S.S Kankia	Male	27	Nil	27
5.	G.U.S.S.S Malumfashi	Male	61	Nil	61
6.	G.G.S.S.S Daura	Female	Nil	187	187
7.	G.P.S.S.S Daura	Male	59	Nil	59
8.	G.C.C Mai-adua	Male	124	Nil	124
Total			607	470	1077

Source: Ministry of Education Katsina (2014)

3.3 Sample Size and Sampling Procedure

Purposive sampling technique was used to select G.C.K Day-wing Katsina as the experimental group being the only mixed school in Katsina State offering financial accounting and has the highest number of students while G.G.T.C.C Chanranchi was selected as the control group. The experimental school was selected within Katsina town to enable the researcher conduct the experiment more effectively. From the two schools, a total number of ninety students were selected using random sampling method as the sample and randomly assigned to both experimental and control groups, that is, thirty students for each group using Hat and Drawn method. This was done as to make the classes of manageable sizes for the experiment, in line with Roscoe (1975) who suggested a small sample size from the target population in an experimental design. Also, Gay and Dieh (1992) suggested a sample of thirty per group in an experimental group.

The procedure for selecting sixty students from G.C.K Day- wing, Katsina was the ‘hat and ‘drawn’ method. The researcher wrote thirty ‘Yes’ and 185 ‘No’ on pieces of papers. The paper was folded in scramble form and put in a container and shaken very well before the 215 boys were asked to pick one each. The same procedure was used for the selection of thirty girls from the population of 218. The researcher wrote thirty ‘Yes’ and 188 ‘No’ on pieces of paper. The papers were folded in scramble form and put in a container and shaken very well before the 218 girls were asked to pick one each. For Government Girls Technical and Commercial College, Chanranchi with population of 65, the researcher wrote 30 ‘yes’ and 35 ‘No’ on pieces of paper. The papers were folded in scramble form and put in a container and shaken very well before the 65 girls were asked to pick one each.

The assigning of the school into experimental group 1 and 11 was based on the principle of chance. The researcher wrote ‘experimental group one’ on a piece of paper and ‘experimental group two’ on another piece of paper and squeezed them. Two students were called a boy and a girl to represent the two experimental groups. The boy represented G.C.K Day-wing Katsina while the girl represented G.C.K Day-wing Katsina. Whatever the two representatives picked automatically became the experimental group of the school.

The summary of the sample selection is presented in table 3.2

Table 3.2 Sample Size for the Study

S/No	Name of School	Location	Number Selected		Total	Remarks
			Male	Female		
1.	G.C.K Day-wing	Katsina	30	30	60	Experimental
2.	G.G.T.C.C	Chanranchi		30	30	Control
Total			30	60	90	

3.4 Instrument for Data Collection

This study utilized the Financial Accounting Achievement Tests (FAAT) as instrument for data collection which was in two parts. The first part consisted of pre-test items while the second part consisted of post-test items. Pre-test of first part of the instrument contained twenty (20) objective questions, which was centred on accounting ratios, trading account and the general principles of double entry book-keeping, it lasted for twenty minutes (appendix II). The marking scheme of the pre-test (appendix III) was used to mark the pre-test. The pre-test was administered to ensure that the students were not too far apart in their cognitive abilities. The second part of the instrument was the post-test (appendix IV). The test asked the students to prepare a Manufacturing, Trading, Profit and Loss Accounts from a list of balances. The post-test lasted for thirty minutes, and marking scheme (appendix V) was used to mark it post-test, the result of the post-test was used as data in this study. The questions were drawn from WAEC and NECO pasted Senior Certificate Examination question papers from 2006 to 2012 for both pre-test and post-test. Both WAEC and NECO are recognised examination bodies with standardised questions.

The researcher designed a lesson plan towards effective teaching and to show the difference between the two teaching methods to be adopted in the experimental work. (See appendix VI for details)

3.4.1 Validity of the Instrument

The instrument was based on items picked from passed WAEC and NECO examination question papers. This pasted question papers were validated by the various examination bodies before they were administered. Validation of content on instrument by experts is an important and acceptable type of validation (Udoh, 2002).

3.4.2 Pilot Study

A pilot test of the instrument was conducted at Government Commercial College Muchai, Zaria, Kaduna State after necessary advice from the researcher's supervisor. Fifteen boys and fifteen girls from SS111 were used as sample for the pilot test. This was done in order to avoid ambiguity of the instrument items and to determine if students at SS11 level would be able to answer the questions. The sample had similar characteristics and background with the target sample for the study. The data collected were subjected to statistical test to determine coefficient of correlation.

3.4.3 Reliability of the Instrument

The split-half method was used in testing the objective questions for the reliability coefficient. The data collected from the pilot study were subjected to statistical analysis using the Spearman-Brown reliability coefficient. The reliability coefficient was 0.77 which is positive and high, hence the instrument was adjudged reliable and stable. This is in line with the attestation of Olayiwola (2007), who stated that the reliability coefficient of 0.5 and above is adequate.

3.5 Procedure for Data Collection

The researcher collected a letter of introduction from the Department of Vocational and Technical Education (see appendix 1) which was used to introduce the researcher to the authorities of the two schools. The data collection period lasted for four (4) weeks, four periods of forty (40) minutes each were used for each of the three groups making a total of twelve periods. For each group the first twenty minutes of the first period were used for introduction, familiarity, and creation of rapport between the researcher and the students. The pre-test was administered the last twenty minutes of the first period. The next two periods were used to teach the students how Manufacturing, Trading, Profit and Loss Accounts are prepared from a set of balances contained in the trail balance. The last period

was used to administer the post-test. Lesson plan were prepared for the two periods that were used in the actual teaching (appendix VI).

Teaching was carried out in accordance with the selected schools time-tables time allocated to Financial Accounting. This was done so as not to disrupt the students other subjects' periods. The scripts were collected, marked, scored and recorded using the marking scheme as in appendix V.

3.6 Procedure for Data Analysis

Percentage was used in analyzing bio-data of students. Mean based on the pass mark of 50% and standard deviation was used for mean achievement score analysis for both pre-test and post-test for the experimental and control groups. Independent t-test was used to test null hypotheses one, two and three because the t-test is one of the most effective methods of comparing two groups mean according to Nworgu, (1991) while Analysis of Variance (ANOVA) and Post Hoc multiple comparison was used to test the null hypothesis four because it consists of three groups mean

Decision rule, for the research questions, the pass mark was 50%. Where mean percentage was below 50%, it means failure. A mean score of 50% and above was regarded as pass and a mean score below 50% was termed as fail. The entire null hypotheses were tested at 0.05 levels of significance. The null hypothesis was rejected if the calculated value was equal or greater than the t-value and accepted if the calculated value was less than the t-value.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

The data derived from field study were collected, analyzed and discussed. These are presented below under the following sub-headings:

- 1) Demographic Data
- 2) Answering the Research Questions
- 3) Hypothesis Testing
- 4) Discussion of the findings

The demographic variables of the students considered in the study were the gender of the students and their ages. These are as shown in Tables 4.1 and 4.2

4.1 Analysis of Demographic Data

Table 4.1 Percentage Analysis of Respondents by Gender

Gender	Frequency	Percentage
Male	30	33
Female	60	67
Total	90	100

Source: Field Survey, December 2014

The data in Table 4.1 showed that 33% of the students were males, and 67% were females. This indicated differences in number of male and female students which was as a result of the mixed school used for the experiment. Though, the numbers of male and female students' were equally distributed across the two experimental groups.

Table 4.2: Percentage Analysis of Respondents by Age

Age Range in Years	Frequency	Percentage
13-15	28	31.1
16-18	53	58.9
19-21	09	10.0
Total	90	100

Source: Field Survey, December 2014

The age range in years indicated in Table 4.2 showed that 58.9% of the students were between 16 - 18 years old, 31.1% were between 13 - 15 years, while 10.0% were between 19 - 21 years old. This implies that those students between the ages of 13-15 started school early, those between the age of 16-18 started school at the normal time while those students between the age of 19-21 started school late.

4.2 Answers to the Research Questions

Analyses of post-test student's performance in Financial Accounting Achievement Tests were used in answering the four research questions. Appendix VII shows the detail performances of the students.

The analyses were presented in Tables 4.3 to 4.6.

Research Question One: What is the difference between the performance of secondary school students taught financial accounting using socratic method and those taught using lecture (teaching) method?

Analysis from Table 4.3 were used to answer research question one.

Table 4.3: Mean performance of secondary school students taught financial accounting using socratic method and lecture (teaching) method.

Students' Group	N	Mean Performance	S.D	Remark
Socratic method students' scores	30	53.10	11.68	Socratic method had higher mean academic performance
Lecture (teaching) method students' scores	30	44.27	12.47	
Total	60			

Source: Field Survey, December 2014

Based on the result presented in Table 4.3, there were thirty students each in the two groups, that is the group taught using socratic method and those taught using lecture (teaching) method. The group taught using socratic method had mean performance of 53.10, Standard Deviation (S.D) of 11.68. On the other hand, those taught using lecture (teaching) method had mean performance of 44.27, Standard Deviation (S.D). Thus, with the mean score of 53.10 for socratic method as against the mean score of 44.27 for lecture (teaching) method, it showed that students taught using socratic method had higher academic performance in financial accounting than their counterparts under the lecture (teaching) method.

Research Question Two: What is the difference between the performance of secondary school students taught financial accounting using interactive method and those taught using lecture (teaching) method?

The analysis in Table 4.4 was used in answering the research question.

Table 4.4: Mean performance of secondary school students taught financial accounting using interactive method and lecture (teaching) method

Students' Group	N	Mean Performance	S.D	Remark
Interactive method students' scores	30	57.57	11.33	interactive method had higher mean academic performance
Lecture (teaching) method students' scores	30	44.27	12.47	
Total	60			

Source: Field Survey, December 2014

The result in Table 4.4 revealed that there were thirty students in each group taught financial accounting using interactive method and lecture (teaching) method. The group taught using interactive method had mean performance of 57.57, Standard Deviation (S.D) of 11.33. On the other hand, students taught using lecture (teaching) method had mean performance of 44.27, Standard Deviation (S.D) of 12.47. Thus, with the mean score of 57.57 for interactive method as against 44.27 for lecture (teaching) method, it clearly showed that students taught using interactive method had higher academic performance in financial accounting than those taught using lecture (teaching) method.

Research Question Three: What is the difference between the performance of secondary school students taught financial accounting using socratic method and those taught using interactive method?

Table 4.5 was used to determine the difference between the performances of students taught using socratic methods and those taught using interactive method.

Table 4.5: Mean performance of secondary school students taught financial accounting using Socratic method and Interactive method

Students' Group	N	Mean Performance	S.D	Remark
Socratic method students scores	30	53.10	11.68	students taught using Interactive method performed relatively better
Interactive method students' scores	30	57.57	11.33	
Total	60			

Source: Field Survey, December 2014

The outcome of Table 4.5 revealed that the thirty students taught using socratic method had mean performance of 53.10, Standard Deviation (S.D) of 11.68. On the other hand, those taught using interactive method had the mean performance of 57.57, Standard Deviation (S.D) of 11.33. Thus, with the mean performance of 53.10 for socratic method as against 57.57 for interactive method, it showed that students taught using interactive method performed relatively better than those taught using socratic method in financial accounting.

Research Question Four: To what extent are the three methods effective in teaching financial accounting in secondary school?

In order to ascertain the effectiveness of using the three teaching methods in teaching financial accounting in secondary school, table 4.6 was used.

Table 4.6: Effectiveness of the three instructional methods

Students' Group	N	Mean Performance	S.D	Remark
Socratic method students scores	30	53.10	11.68	among the three groups, those taught with Interactive method had higher mean performance,
Interactive method students' scores	30	57.57	11.33	
Lecture (teaching) method students scores	30	44.27	12.47	
Total	90			

Source: Field Survey, December 2014

The result in Table 4.6 revealed that three groups of students of thirty each were taught using three methods of teaching namely socratic method, interactive method and lecture (teaching) method. Students taught using socratic method had mean performance of 53.10, Standard Deviation (S.D) of 11.68. Those taught using interactive method had the mean performance of 57.57, Standard Deviation (S.D) of 11.33. Those taught using lecture (teaching) method had mean performance of 44.27, Standard Deviation (S.D) of 12.47. Thus, with the mean performances of 53.10, 57.57 and 44.27 for socratic, interactive and lecture (teaching) methods respectively, it showed that among the three groups, those taught with interactive method had higher mean performance, therefore performs better, followed by those taught using Socratic method and lastly, those taught with Lecture (teaching) method.

4.3 Test of the Null Hypotheses

This study raised four research questions, and four null hypotheses were formulated to achieve the objectives of the study. The post-test scores of the Financial Accounting Achievement Test of students' were statistically analyzed at the 0.05 level of significance and the results interpreted. For null hypotheses one, two and three independent t-test was used, while Analysis of Variance (ANOVA) statistics and LSD Post-Hoc multiple comparison tests were used to test null hypothesis four. In testing of null hypotheses, if the calculated value is less than the critical value at 0.05 level of significant, the null hypothesis will be accepted. This implies no significant difference between the variables. On the other hand, if the calculated value is greater than or equal to the critical value, the null hypothesis will be rejected. This implies that significant difference exist, between the variables.

The details performances of the students' are seen in appendix VII, the summary of results from Tables 4.7 to 4.10 were used for testing the four null hypotheses.

Null Hypothesis One: There is no significant difference between the performance of secondary school students taught financial accounting using socratic method and those taught using lecture (teaching) method.

Data from Table 4.7 were used for testing null hypothesis one.

Table 4.7 Test for difference between performances of secondary school students taught financial accounting using socratic method and lecture (teaching) method

Group	N	DF	Mean	S.D	t-cal	t-crit	Sig (2 tails)
Student taught using Socratic method	30		53.10	11.68			.006
		58			2.83	1.96	
Student taught using Lecture (teaching) method	30		44.27	12.47			.006

Source: Field Survey, December 2014

Table 4.7 data showed the results of independent t-test analysis used for testing difference between the performances of students taught financial accounting using socratic method and lecture (teaching) method. The data from the table revealed that the group taught using socratic method had mean performance of 53.10 and standard deviation (SD) of 11.68 while, those taught using lecture (teaching) method had mean performance of 44.27 and standard deviation (S.D) of 12.47. The t-calculated was 2.83 while, the t-critical was 1.96. Since the t-calculated is greater than the t-critical, it implies that significance difference exists between the performance of students taught using socratic method and those taught using lecture (teaching) method. Therefore, the null hypothesis which stated that there is no significant difference between the performance of secondary school students taught financial accounting using socratic and those taught using lecture (teaching) method is hereby rejected.

Null Hypothesis Two: There is no significant difference between the performance of secondary school students taught financial accounting using interactive method and those taught using lecture (teaching) method.

Table 4.8 was used to test null hypothesis two

Table 4.8 Test for difference between performance of secondary school students taught financial accounting using interactive method and lecture (teaching) method.

Group	N	DF	Mean	S.D	t-cal	t-crit	Sig (2 tail)
Students taught using Interactive method	30		57.57	11.33			.003
		58			4.32	1.96	
Students taught using Lecture (teaching) method	30		44.27	12.47			

Source: Field Survey, December 2014

The data from Table 4.8 showed that the group taught using interactive method had mean performance of 57.57 and standard deviation (S.D) of 11.33. On the other hand, those taught using lecture (teaching) method had mean performance of 44.27 and standard deviation (S.D) of 12.47. The t calculated was 4.32 while, the t critical was 1.96. The analyzed data presented in Table 4.8 showed that the t-calculated 4.32 was greater than the t-critical 1.96, which revealed that, there was significant difference between the performances of secondary school students taught financial accounting using interactive method and lecture (teaching) method. Therefore, the null hypothesis which stated that there is no significant difference between the performance of secondary school students taught financial accounting using interactive method and lecture (teaching) methods is hereby rejected.

Null Hypothesis Three: There is no significant difference between the performance of secondary school students taught financial accounting using socratic method and those taught using interactive method.

The data from Table 4.9 were used to test the null hypothesis three.

Table 4.9: Test for difference between the performance of secondary school students taught financial accounting using socratic and interactive methods

Group	N	DF	Mean	S.D	t-cal	t-crit	Sig (2tail)
Students taught using Socratic method	30		53.10	11.68			.138
		58			1.51	1.96	
Students taught using Interactive method	30		57.57	11.33			

Source: Field Survey, December 2014

The data from Table 4.9 revealed that the mean performance and standard deviation (S.D) for socratic method and interactive methods were 53.10 and 57.57 (mean performances) and 11.68 and 11.33 (S.D) respectively. The analyzed data using the independent t-test statistics presented in Table 4.9 revealed that the t-calculated 1.51 is less than the t-critical 1.96. This showed that there is no significant difference between the performance of secondary school students taught financial accounting using socratic method and those taught using interactive method. Consequently, the null hypothesis which stated that there is no significant difference between the performance of secondary school students taught financial accounting using socratic and interactive methods is therefore accepted and retained.

Null Hypothesis Four: There is no significant difference between the extent to which the three methods are effective in teaching financial accounting in secondary school.

The data from Tables 4.10(a) and 4.10(b) were used to test for differences between the performances of secondary school students in the use of the three teaching methods.

Table 4.10(a): Analysis of Variance (ANOVA) statistics to test for significant difference among secondary school students' performance in financial accounting using three teaching methods

Source of Variation	Sum of Squares	df	Mean Square	F-cal	F-crit	Sig. (2tails)
Between groups	2748.69	2	1374.34	9.81	3.10	0.000
Within groups	12191.93	87	140.14			
Total	14940.62	89				

Source: Field Survey, December 2014

The data from Table 4.10(a) revealed that the sum of squares between groups was 2748.69, the degree of freedom (df) as 2 and the mean square was 1374.34. On the other hand, the sum of squares within groups was 12191.93, the degree of freedom (df) as 87 and the mean square was 140.14. The f-calculated was 9.81 at .000 level of significant. This showed that there is significant differences between the performances of students taught using the three teaching methods. A further test of comparison among the three methods was calculated using LSD post-Hoc multiple comparison tests as revealed in Table 4.10(b).

Table 4.10(b): LSD post-Hoc multiple comparison test between the Socratic, Interactive and Lecture methods

I Group	J Group	Mean diff. I – J	Standard Error	Sig. (2tails)
Socratic method	Interactive method	4.47	3.06	0.148
	Lecture method	8.83*	3.06	0.005
Interactive method	Socratic method	4.47	3.06	0.148
	Lecture method	13.30*	3.06	0.000
Lecture method	Socratic method	8.83*	3.06	0.005
	Interactive method	13.30*	3.06	0.000

The mean difference is significant at 0.05.

Source: Field Survey, December 2014

From Table 4.10(b), the LSD post-Hoc multiple comparison test between the performances of students in Socratic method, interactive method and lecture (teaching) method, the results revealed significant difference between the performance of students taught using socratic and lecture (teaching) methods, as well as interactive and lecture (teaching) methods. Therefore, the null hypothesis that stated that there is no significant difference in the effectiveness of the three instructional methods is hereby rejected.

4.4 Summary of Major Findings

The study established that:

- a) Students taught financial accounting using socratic method performed better than those taught using lecture (teaching) method. (P-value 0.006)
- b) Students taught financial accounting using interactive method performed better than those taught using lecture (teaching) method. (P-value 0.003)
- c) Students taught financial accounting using interactive method performed better than those taught using socratic method. (P-value 0.138)

- d) there was difference between the performances of students taught financial accounting using socratic method, interactive method and lecture (teaching) method. Though, those students' taught using interactive method performed better. (P-value 0.000)

4.5 Discussion of Major Findings

In research question one; there were mean performances of 53.10 and 44.27 between the group taught with socratic method and those taught using lecture (teaching) method, which showed that the group taught financial accounting using socratic method had a higher mean performance. A further test of the item using null hypothesis one revealed that significant difference exists between the two groups. This is in line with the findings of Raymond and Ogunbameru (2005) who compared Inquiry and lecture methods that revealed a 55.7% failure in control group's post-test mean scores which were a replica of the failure trend in financial accounting students' performance in public examination. Also, the finding proves right NECO (2004) statement on financial accounting students' performance trend in public examination which stated that predominant usage of lecture (teaching) method of instruction in financial accounting teaching was a contributory cause of students' failure in the subject. That was why Siagh and Rana (2004) reported that questioning is an important part of the teaching process without which no teaching can be effective. They went further to state that it keeps the students alert and therefore, keep their attention intact. Questioning breaks the passivity and monotony that often pervade in a class as most teacher use lecture method. This is supported by Aliyu (2000) which stated that the questions asked by the teacher help the students to think, reason and organize their thoughts to be able to give answers.

In research question two, the mean performance for the two groups compared were 57.57 and 44.27 which showed that students taught financial accounting using Interactive

method had a higher mean performance than those taught using lecture (teaching) method. A further test of the item using null hypothesis two revealed that there was a significant difference between the performances of students taught financial accounting using the two methods. This agrees with Yunus (2011) who stated that the development of true critical-thinking skills, however, requires just such an open and honest exchange of ideas. Interactive method of teaching helps to motivate students toward further learning, it allows students to apply information in new settings, or to develop students' thinking skills. Interactive method of teaching is an effective way for many students' to develop their conceptual framework and to learn problem-solving skill as they try out their own ideas. This implies that interactive method of teaching is preferable to lecture (teaching) method because students are revived from their passivity of merely listening to a lecture and instead become attentive and engaged.

In research question three, the mean performance between the two groups compared stood at 53.10 and 57.57. This slightly higher performance of the group taught using Interactive method was not due to chance factor but was as a result of the treatment given, which is an indication of effectiveness of interactive method over socratic method of teaching. Based on the view of Mishra (2007), interactive method of teaching sharpens critical and quantitative thinking skills thereby forces students to explain in their own words what they think and do. In this respect, Interactive method of teaching can be said to be better method of teaching financial accounting and enhancing students' understanding, interpretation and application of financial accounting rules, concept and principle to modern day business activities. Though, the results of the tested null hypothesis three on difference between the performances of secondary school students taught financial accounting using socratic and interactive methods showed no significant difference between the two groups of students. This implies that Socratic method can

equally be used in teaching Financial Accounting in Secondary Schools in Katsina State in order to bring about improved performances of students. This is supported by Copeland (2005) who pointed out that socratic method can be used at any grade level and with all subject areas and lessons can be adapted to fit a changing society.

On the effectiveness of the three teaching methods in the teaching of financial accounting in secondary school, results based on the analyzed result showed that the mean performance of students were 53.10, 57.57 and 44.27 for students taught using socratic method, interactive method and lecture (teaching) method respectively. From this result, it is obvious that Interactive method was more effective, followed by socratic method and the least effective was the lecture (teaching) method. A further test of the item using null hypothesis four revealed that there are significant differences in the effectiveness of the three teaching methods and that the differences between the performance of students taught financial accounting using socratic method and lecture (teaching) method as well as those of students taught using interactive method and lecture (teaching) method were significant. Therefore, one of the most effective methods is the interactive method.

These findings agreed with Toby (1997) who said that individual/group mean achievement score should serve as a basis for making judgment whether a group/individual has achieved a pre-determined, stated objective or not. The author further stated that; mean achievement score should be regarded as a reliable performance indicator of the treatment (instructional method). Also, Alberecht and Sack (2001) observed that lecture method will thwart student's ability to learn real world skills, but the combination of traditional teaching method and student-centered learning approach will develop leadership skills and team building. This implies that actually the failure rate in Financial Accounting is as a result of the ineffective methods used in teaching the subject.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The study is titled "Influence of Socratic and Interactive methods of Teaching Financial Accounting on Performance of Secondary School Students in Katsina metropolis, Nigeria". The major objective of the study was to find out the influence of using Socratic and Interactive methods on Secondary School Students performance in Financial Accounting in Katsina State. The study aimed at achieving four specific objectives from which four research questions and four null hypotheses were postulated. The research questions and null hypotheses were formulated so as to provide statistical validity to various solutions proffered for the objectives of the study.

The research design for the study was quasi experimental design. Population for the study comprised of 1,077 SS11 students both male and female offering Financial Accounting in public secondary schools in Katsina State at as the time of this study. Two schools were selected from the eight secondary schools offering financial accounting in the state using purposive technique. From the two schools, a total number of ninety students was selected as sample using hat and drawn method and randomly assigned to both experimental group and control group, that is, thirty students for each group. The instrument used for collection of data for the study were the Financial Accounting Achievement Test I and II (FAAT I and II). Data collection period lasted for four weeks, pre-test and post-test scores were recorded and the post-test scores were statistically analyzed. The four null hypotheses were tested at 0.05 level of significance. Null hypotheses one, two and three were tested using independent t-test, while hypothesis four was tested using Analysis of Variance (ANOVA) and LSD Post Hoc multiple comparison

tests. From the analysis, null hypothesis three was accepted and retained, while null hypotheses one, two and four were rejected.

Finally, the findings established that:

- a) Students taught financial accounting using socratic method performed better than those taught using lecture (teaching) method. (P-value 0.006)
- b) Students taught financial accounting using interactive method performed better than those taught using lecture (teaching) method. (P-value 0 .003)
- c) Students taught financial accounting using interactive method performed better than those taught using socratic method. (P-value 0.138)
- d) there was difference between the performance of students taught financial accounting using socratic method, interactive method and lecture (teaching) method. Though, those taught using interactive method performed better.

5.2 Conclusion

Following the analyses of the data collected as well as the findings of the study, it could be concluded that interactive method and socratic method have influence on students performance, though interactive method had highest mean score performance.

5.3 Recommendations

The following recommendations are put forward based on the findings:

- a) Teachers should intensify efforts in the use of Interactive method in teaching Financial Accounting in Secondary Schools so as to bring about better performance of students in Katsina State.
- b) Students should be adequately involved in the teaching and learning process of Financial Accounting, hence the need for the use of Socratic teaching method.
- c) The Educational Resource Centers (ERC) should send only competent teachers to teach Financial Accounting in the Public Secondary Schools in Katsina State.

- d) Financial Accounting teachers in Katsina State should be encouraged to get additional qualifications through in-service training, seminars and workshops so as to keep in pace with the dynamic processes of the teaching and learning situation.

5.4 Suggestion for Further Studies

The researcher wishes to suggest that further studies be carried out on the topic partnership account using guided-discovery and demonstration methods in order to determine their effectiveness on students' academic performance.

REFERENCES

- Abimbola, I. O (2004). *A Brief History of Teaching. In Fundamental Principle and Practice of instruction.* Ilorin, Kwara State, Nigeria Tunde Babs Printers.
- Abrahamson, L. (2013). *Interactive Method of Teaching*, Department of Education. Training and Employment. Retrieved from www.learningplace.com.au.au/teaching on 23/May/2013
- Adamu, I. (2010). The Influence of Teachers' Methodology on Performance of Accounting Students in Nigerian Universities. *Journal of Business Educational Research and Development.* Kaduna State. ABEN Press. Vol.1 No 1 Pp103-108
- Adebule, S.O (2004). Gender Differences on Locally Standardized Anxiety Rating Scale in Mathematics for Nigeria Secondary Schools. *Nigeria Journal of Counseling and Applied Psychology.*
- Adukia, R.S. (2009). *History of Accounting and Accounting Standards.* Retrieved from <http://www.taxgummlaccounting/historyofaccountandstandardshtml> on 7/6/2010
- Aggarwal, J.C (2008). *Principle, Method and Techniques of Teaching.* Vikas Publishing House PVT Ltd.
- Ajoma, U. C (2009) Analysis of Methods and Strategies for Teaching and Learning Business Education: The Place of Information and Communication Technology Nigeria in *Association of Business Educator of Nigeria (ABEN) 1(9) 110— 122*
- Akeju, J.B (2005). *Financial Accounting* Volume 1. Lagos, JBA Association Ltd Press.
- Ali, R, Hukamdad H. Akhter A and Khan, A (2010) Effect of Using Problem solving Method in Teaching Mathematics on Achievement of Mathematics Students. *Asian Social Science Journal.* 6(2): 67—72.
- Aliyu, M .M. (2000). *Subject Method for Business Teachers*, Ilorin, Kwara State, Nigeria. More Hope (Nig) Enterprises
- Ashikhia, D.A (2010). *Students' and Teachers' Perception of the Causes of Poor Academic Performance* in Ogun State Secondary Schools. Retrieved from <http://www.eurojournal.com/ejss> on 16/6/2013
- Atamian, R. (2001). *Teaching by Demonstration.* Retrieved from <http://www.appliedscholastics.org/RubikAtamian.Pdf> on 17/6/2010.
- Barry, R. A. (2010). *Teaching Effectiveness and Why its Matters.* Department of Education Marylhurht University. Retrieved from www.chalkboardproject.org/wp on 14/7/2013
- Babat, A.L. (2005). Major Constraints in the Teaching of Financial Accounting in Secondary Schools in Kaduna State as Perceived by Accounting Teachers. (Unpublished master thesis) University of Nigeria Nuskka.

- Berk, R. A. (2005). Survey of 12 Strategies to Measure Teaching Effectiveness, in the *International Journal of Teaching and learning in Higher Education*. 17(1): 48 — 62.
- Bhardwaj, V. (2000). *Teaching Problem Solving Skills*. Retrieved from http://cte.uwaterloo.ca/teaching_resoruces/tips/teaching-problem-soving-skills.html on 24/6/2010.
- Boice, A. (2000). *Teaching Methods*. Retrieved from <http://serc.carleton.edu/NAGT'workshop/teaching-methods/index.html> on 17/6/2010.
- Broadbear, J.T. (2003). Essential Elements of Lessons designed to promote critical thinking, in *Journal of scholarship of teaching and learning*. 30(3): 1 — 8.
- Brodie, P. and Irving, K. (2007). Assessment in Work based Learning: Investigating a pedagogical Approach to Enhance Students Learning. *Assessment and Evaluation in Higher Education*. 32(1): 11 - 19.
- Cantrell, D. (2004). *Using a Variety of Teaching Methods and Strategies*. Retrieved from <http://www.itdl.org/journal/Nov-05/index.htm> on 7/6/2010.
- Coffey, R (2009). *Demonstration*. Retrieved From <http://www.learning.org/p/pages/5181> on 21/6/2010.
- Colburn, A. (2000). Constructivism: Science Education's Grand Unifying Theory. *Clearing House*. 74(1): 4.
- Copeland, M. (2005). *Socratic Circles: Fostering Critical and Creative Thinking*. Retrieved from www.slideshare.net/ram on 25/7/2013
- Davis, L., Riley, M. and Fisher, D.J. (2003). Business Students Perception of necessary skills, in *Business Education Forum*. 57 (4): 18 — 21.
- Daz —lefebure, R. (2004). Multiple Intelligence Learning for Understanding and Creative Assessment: Some Pieces to the Puzzle of Learning, in *Teachers College Record*. 106(1): 49—57.
- Desantis, J. (2008). *A Brief History of Accounting: From Prehistory to the information age*. Retrieved from <http://www.cluteinstitute-online.com/programs/Disney/2008/Article439Pdf>. on 30/6/2020.
- Downs, R. (2010). *Problem Solving*. Retrieved from <http://www.engsc.ac.uk/ertheory/problemsolvng.asp> on 13/7/2010.
- Duff, A. (1998). Objective Test Learning to Learn and Learning Style. *Accounting Education Journal* 7(4) Pp 335-345
- Ediger, M. (2001). *Effective Teaching Methods for Large Classes*. Retrieved from <http://www.natefacs.org/JFCE/V24NO2/V24NO2Carpenter.pdf> on 17/6/2010.

- Eng. C.S. (2001). *Problem Based Learning Educational Tool or Philosophy*. University of Newcastle, Australia. Retrieved from <http://edweb.sdsu.edu/clrit/learningtree/PBLadvantages.html> on 7/7/2010. -
- Fajemidagba, M.O. (2004). *Formal Instructional Methods: Socratic, Project, Discovery and Problem Solving methods of Instruction*, Fundamental Principles and Practice of Instruction. Ilorin: Tunde Babs Printers.
- Federal Republic of Nigeria (2004). *National Policy on Education* (4th Ed). Yaba: Educational Research and Development Centre (NERDC) Press.
- Ford, N. and Chen, S.Y. (2001). Matching /Mismatching revisited: An Empirical Study of Learning and Teaching Styles, in *British journal of Educational Technology*. 32(1): 5022.
- Gay, L.R. and Dieh, L. (1992). *Research Methods for Business and Management*. Retrieved from <http://www.emodertators.com/ipctj/1998/nz-4/hill.html> on 9/7/2010.
- Happy, L. (2007). *The Consistency Concept*. Retrieved from <http://www.happyaccountant.com> on 4/8/2010.
- Haynes, T. and Bailey, G. (2003). Are you and your basic business students asking the right questions? *Business Education forum*. 57(3): 33 — 37.
- Hemming, H.E. (2000). Encouraging critical thinking. In *Journal of Education*. 35(2): 173.
- Herod, L. (2004). *Learning Styles and Strategies* Retrieved from www.edu.gov.mb.ca/ge/allpublications on 8/8/2013
- Herrid, C.F. (2003). The Death of Problem Based Learning, in *Journal of College Science Teaching*. 32(6).
- Howell, RT. (2003). The Importance of the Project Method in Technology Education, in *Journal of industrial Teacher Education*. Vol. 40(3). Retrieved from <http://lscholar.lib.vt.edu/journals/jitelv43n3Jhowell.html> on 2/8/2010.
- Howell, R.T. Mordini, R. (2003). The project method increases student learning and interest, in *Journal of Technical Directions*. 62(8): 31-34
- Ibrahim, S. (2011). Impact of Accounting Background, Gender and Motivation on Performance of Business education students' in Introductory Accounting in Federal Universities in Nigeria. (Unpublished doctoral dissertation) Ahmadu Bello University, Zaria.
- Ifeyiuche, U.T. (2000). *Effect of Field Trips on Performance in Business Studies in Two Secondary Schools in Lagos*. Unpublished Thesis Submitted to the Postgraduate School A.13.U. Zaria.
- John, I. (2009). *History of Accounting*. Retrieved from <http://www.articlealley.com/article78124922.html> on 17/6/2010.

- Kang, N. and Howren, C. (2004). Teaching for Conceptual Understanding, in *Science and Children journal*. 42(1): 28—32.
- Lambros, A. (2002). *Problem Based Learning in K-8 Classroom*. A Teacher Guide to implementation. California Corvin Press Inc.
- Magaji, Z. B (2011). Information Communication Technology and Business Education Students' Performance in accounting in Nigeria federal Universities. (Unpublished master's thesis). A.B.U Zaria
- Makinde, V. (2005). Prospects for E-learning in the Teaching-learning Mix, in *Nigerian Journal of Science and Educational Research*. School of Science, Federal College of Education Zaria. 1(1).
- Mishara., R.C. (2007). *Teaching Styles*. New Delhi: APH Publishing Corporation.
- Mohammed,U.T., Gayus, B.J., Oscar, T.I and Solomon, R.T (2002). *Fundamentals of Vocational and Technical Education in Nigeria*. Owerri, Imo State, Nigeria, Versatile Press.
- Mohidin, R., Jaidi, I., Sang, LT. and Osman, Z. (2009). The Perception of Accounting Students of Effective Teaching Methods and Teacher Characteristics, in *European Journal of Social Sciences*. 8(1): 21 — 29.
- Mouroe, P. (1915). *Evolution of Teaching Method*. Retrieved from <http://www.wikipedia> on 14/8/2013
- NECO (2004). *Trend of Students' Performance*. Minna, Author
- Nworgu, B.G. (1991). *Educational Research: Basic Issues and Methodology*. Ibadan: Wisdom Publishers Ltd.
- Obi, C.A. (2005). *Methodology in Business Education*. Enugu: Oktek Publishers Nigeria Ltd.
- Ojo, T.O (2010). Influence of Demonstration Method of Teaching Clothing and Textile on Skill Acquisition among NCE Students' Ahmadu Bello Universty. *Journal of Vocational Studies* Volume 4, No 1. Pp83-87
- Okon, F.I. (2002). *Strategies for Improving Student Interest in Accounting in Secondary Schools* in Akwa Ibom State. (Unpublished master's thesis). University of Nigeria Nsukka
- Okwuanaso, S.L and Nwazor, J.C. (2001). *Instructional Strategies in Business Education*. Akwa: Ikenga Publishers.
- Olayiwola, A.O. (2007). *Procedure in Educational Research*. Kaduna: KINGO (Nig) Ltd.
- Olowodun, Y.L. (2009). Strategies for Effective Teaching of Accounting in Senior Secondary Schools in Kaduna State, *Business Education Journal*. 7(1): 183 -193.

- Ornosewo, E.O. (2004). *Laboratory Demonstration and Field Trip Methods of Instruction*, in *Fundamental Principles and Practice of Instruction*. Ilorin: Tunde Babs Printers
- Omotseye, B.O.J. (2007). *The Discussion Teaching Method: An Interactive Strategy in Tertiary Learning*. Retrieved from <http://findarticles.comlp/articles/mi-qu3673/is-1-128/ain2938152> on 17/6/2010.
- Orphan, A. and Ruhan, O.T. (2006). The Effect of Problem Solving Based Active Learning in Science Education on Students Academic Achievement Attitude and Concept Learning: *Eurasia Journal of Mathematics, Science and Technology Education*. 3(1): 71 - 81.
- Osuala, E.C (2000). *Business Management*, Onitsha, Cape International Ltd.
- Osuala, E.C. (2004). *Principles and Methods of Business and Computer Education*. Enugu: Cheston Agency Ltd
- Popoola, A (2011). *Elements of Financial Accounting for Everyone (Book One)*. Kaduna, Crest Royal Ventures Press
- Project Lead the Way (2003). *Curriculum Development Guides*. Retrieved from <http://scholar.lib.vt.edu/ejournals/J1TE/V43n3/howell.html> on 15/7/2010.
- Raymond, U. and Ogunbameni, M.T. (2005). *Comparative Analysis of Two Methods of Teaching Financial Accounting at Senior Secondary School*. Retrieved from <http://www.itdl.org/journal/Nov-05/index.html> on 7/6/2010.
- Roh, K.H. (2003). *Problem Based Learning in Mathematics*. Retrieved from <http://www.ericdigests.org/2004-3/math.html> on 21/8/2010.
- Roscoe, J.T. (1975). *Fundamental Research Methodology and Statistics for Behavioral Sciences*. (2nd Ed) New York: Holt Rinehart and Winston.
- Scriven, M. and Paul, R. (2007). *Defining Critical Thinking*. Retrieved from <http://www.freeinquiry.com/critical-thinking.html> on 17/7/2010.
- Siagh, R.P. and Rana, G. (2004). *Teaching Strategies for Contemporary Time*. New Delhi. APH Publishing Corporation.
- Snyder, L.G. and Snyder, M.J. (2008). Teaching Critical Thinking and Problem-solving skills. *The Deha Pi Epsilon journal*. 1(2): 90— 99.
- Sola, A.O and Ojo, O.E. (2007). Effects of projects, inquiry and lecture-demonstration teaching methods on senior secondary students' Achievement in Separation of Mixtures practical test, in *educational research and review journal*. 2(6): 124 -132.
- Tick, A. (2007). *Application and problem based Learning in classroom activities and media*. Retrieved from <http://bmf.hu/conferences/sami2007/36-Andrea.pdf> on 8/8/2010
- The Federal Republic of Nigeria (2004). *National Policy on Education*. Lagos, NERDC Press

- Ubah, M.C (2012). Achieving Effective Teaching and Learning in Nigerian Universities through Information and Communication Technology. *Journal of Vocational Business Educator* Volume 1, No1 Pp 124-130
- Udoh, A.A. (2002). Effects of Lecture Period and Automotive Device on the Performance of Low Achievers' in Introductory Accounting in Ahmadu Bello University Campuses. (Unpublished doctoral dissertation). A.B.U Zaria
- Vaughan, L. and Baker, K (2001). Teaching in the Medical Setting: Balancing Teaching Styles, Learning Styles and Teaching Methods, *Medical Teacher's Journal*. 23(6): 169 - 177
- Walker, J.T. and Lofty, S.P. (2003). Effect of problem based learning curriculum on students Perception of self directed learning, in *Issues in Educational Research*. Retrieved from <http://ccsenet.org/journal/index.php/ass/article/viewfile/5040/4181> on 18/7/2010.
- West African Examination council, (2004). *Percentage Performance of Candidates in Twenty Popular Subjects in West African Senior School Certificate Examination (WASSCE)*. The Punch Newspaper Friday June 18.
- West African Examination Council (2011). *Report on May/June 2008-2011 Result Statistics*. Author
- Wikipedia, the free encyclopedia. (2010) *Problem Solving*. Retrieved from <http://en.wikipedia.org/wiki/problem-solving> on 18/7/2010.
- Wikipedia, the free encyclopedia. (2010). *Financial Accounting*. Retrieved from [http://financial + accounting](http://financial+accounting) on 7/6/20 10.
- Wong, D. (2007). Beyond Control and Rationality: Dewey, Aesthetics, Motivation, and Educative Experiences, in *Teachers College Record*. 109(1): 192-220
- Yunus, A (2011). *Advantages and Disadvantages of Interactive Learning Environment*. Retrieved from www.termpaperwarehouse.com on 16/6/2013
- Yusuf, S.A.O., Ohanado, S.E. and Yusuf, K (2002). *Educational Psychology: An Introduction*. Zaria, Tamaza Press.
- Zhang, L. (2006). Does Student-teacher Thinking Style Match/Mismatch Mater in Students' Achievement? In *Educational Psychology, Journal*. 26(3): 395-409

APPENDIX 1



DEPARTMENT OF VOCATIONAL & TECHNICAL EDUCATION

AHMADU BELLO UNIVERSITY, ZARIA NIGERIA

FACULTY OF EDUCATION

Telephone: 069-51755, 50692

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

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

Your Ref: _____
M.Ed/Educ/20396/2012-2013

3rd November, 2014

Our Ref: _____

Date: _____

Letter of Introduction

ONAOLAPO ENIOLA – M.ED/EDUC/20396/2012-2013

This is to certify that the above mentioned name is a Postgraduate student (M.Ed Business Education) in the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria carrying out a research topic: *Effect of Socratic and Interactive Methods of Teaching on Student' Performance in Financial Accounting in Senior Secondary Schools in Katsina State, Nigeria.*

Please, kindly give her every assistance she may require.



Professor A.A. Udoh
HEAD OF DEPARTMENT

APPENDIX II –Pre-test

INTRODUCTION: Answer all question in Sections ‘A’ and ‘B’

Section A

1. Gender
Male []
Female []
2. Age (in years)
13 – 15 []
16 – 18 []
19 – 21 []

SECTION B

Objectives Questions

Instruction; Indicate the answer by ticking the correct option

1. After recording the business of a sole trader from the original documents and extraction of the trial balance then comes the preparation of.....account as the first step.
 - (a) appropriation
 - (b) profit loss
 - (c) trading
 - (d) company
2. A trial balance is.....
 - (a) an attempt to balance off the account
 - (b) balance sheet balances
 - (c) the credit balances of the account
 - (d) list of all balances extracted from the ledger
3. In the balance sheet, a bank overdraft is a/an.....

- (a) current liability
 - (b) current asset
 - (c) fixed asset
 - (d) long term liability
4. Goods sent back to the supplier as a result of poor quality is referred to as
- (a) returns
 - (b) returns forward
 - (c) returns inwards
 - (d) returns outward.
5. The term 'depreciation' means the..... of an asset
- (a) life span
 - (b) reduction in value
 - (c) scrap value
 - (d) increase in cost
6. Carriage on sales is charged to the ----
- (a) credit side of the profit and loss account
 - (b) credit side of trading account
 - (c) debit side of trading account
 - (d) debit side of profit and loss account
7. Double entry principle states that -----
- (a) for every credit entry, debit entry must be recorded twice
 - (b) each transaction with a debit entry must have a corresponding credit entry
 - (c) for every debit entry, credit entry must be recorded twice
 - (d) each debit entry must have a corresponding debit entry in another account
8. Goods sold on credit are first recorded in the -----

- (a) sale day book
 - (b) sales ledger
 - (c) purchase day book
 - (d) purchase ledger
9. Which of the following entries is correct when goods are bought on credit ----
- (a) the sales account is debited and purchase account credited
 - (b) the purchase account is debited and the debtors account credited
 - (c) the purchase account is debited and the customer's account credited
 - (d) the debtor's account is debited and purchase account credited
10. Which of the following is not a liability
- (a) accrued salaries
 - (b) creditors
 - (c) prepayment
 - (d) short term loan
11. A trial balance is not regarded as an account because it -----
- (a) is a summary of balances in the ledger at a given time
 - (b) does not have up to eight columns as a ledger
 - (c) does not have 'debit' and 'credit' entries
 - (d) does not follow the rule of double entry
12. Which of the following is correct of cost of sales.....
- (a) opening stock + purchases - returns inwards
 - (b) opening stock + purchases – closing stock
 - (c) opening stock – purchases - closing stock
 - (d) opening stock+ sales + closing stock
13. Carriage inwards are incurred on goods.....

- (a) in process
 - (b) purchased
 - (c) sold
 - (d) returned
14. Which of the following defines the function of book-keeping -----
- (a) it breaks every business transaction into debit and credit
 - (b) it classifies business transactions into appropriate books of account
 - (c) it groups cash and credit transactions together
 - (d) it tests the accuracy of double entry principles in the ledger
15. In a trading, profit and loss account, carriage inwards is posted to.....
- (a) trading account
 - (b) purchase account
 - (c) profit and loss account
 - (d) balance sheet
16. Purchase in accounting refers to goods bought for
- (a) decorating offices
 - (b) repairs
 - (c) resale
 - (d) permanent use
17. Opening stock + purchases + carriage inward equals to
- (a) cost of goods sold
 - (b) prime cost
 - (c) total sales
 - (d) cost of goods available for sale
18. Discount allowed is a charge to.....

- (a) balance sheet
 - (b) trading account
 - (c) current account
 - (d) profit and loss account
19. Carriage outwards is accounting term for amounts spent on
- (a) goods for production
 - (b) goods sold
 - (c) excess stock
 - (d) goods returned
20. The accounting equation states that.....
- (a) $C = A + L$
 - (b) $L = A + C$
 - (c) $A = C + L$
 - (d) $A = L - C$

APPENDIX III – Pré-test Marking Schème

Each question carries two (2) marks

1. C - Trading
2. D – List of all balances extracted from the ledger
3. A – current liabilities
4. D – returns outward
5. B – reduction in value
6. D – debit side of profit and loss account
7. B – each transaction with debit entry must have a corresponding credit entry
8. A – sale day book
9. C – the purchase account is debited and the customer's account credited
10. C – prepayment
11. A – is the summary of balances in the ledger at a given time
12. B – opening stock + purchases – closing stock
13. B – purchased
14. B – it classifies business transactions into appropriate book of account
15. B – manufacturing account
16. C – resale
17. D – cost of goods available for sale
18. D – profit and loss account
19. B - good, sold
20. C – capital plus liabilities

APPENDIX IV-Post-test

THEORY QUESTION

The following balances were extracted from the books of A. Ade and Sons Ltd., a manufacturer of laundry soaps as at 31st December, 2002.

Stock 1/1/2002:	₦
Raw materials	18,900
Work-in-progress	23,000
Finished goods	17,000
Purchases of raw materials	72,000
Carriage on raw materials	840
Manufacturing wages	60,000
Rent	3,200
Rates	4,800
Selling expenses	5,100
Stock 31/12/2012:	
Raw materials	15,240
Work-in-progress	36,178
Finished goods	16,000
Depreciation of plant and equipment	7,200
Direct expenses	3,200
Office salaries	6,200
Discount allowed	2,800
Discount received	1,200
Return inwards	2,120
Returns outwards	1,800
Factory salaries	4,540
Insurance	1,260
General expenses	4,260
Sales	228,200
Advertising	6,124
Carriage outwards	1,200
Bad debts	680

Additional information:

- (a) Rent, rate and insurance be shared between factory and the office in the ratio of 4:1 respectively.
- (b) The goods are transferred to sales department at cost plus 20% manufacturing profit.

- (c) Salaries due are ₦1,200, general expenses paid in advance are ₦146 and insurance paid in advance is ₦400. You are required to prepare the Manufacturing, trading and Profit and Loss Account for the year ended 31st December, 2002.

APPENDIX V- Post-test Marking Scheme

Each correct entry carries two (2) marks. 2 x 50 = 100%

A. Ade and Sons Ltd

Manufacturing Account for the year ended 31st December, 2002

	₦	₦	₦
Opening stock of raw materials	18,900	Market value of goods produced c/d	172,260
Purchases raw materials 72,000			
less returns outward <u>1,800</u>	70,200		
Add: carriage on raw materials	<u>840</u>		
Cost of raw materials available for use	89,940		
less closing stock of raw materials	<u>15,240</u>		
Cost of raw materials used	74,700		
Add: manufacturing wages	60,000		
Direct expenses	<u>3,200</u>		
Prime cost	137,900		
<u>Factory overhead</u>			
Rent (4:1 of 3,200)	2,560		
Rates (4:1 of 4,800)	3,840		
Insurance (<u>1260 – 400</u> 4:1 of 860)	688		
Depreciation of plant and equipment	7,200		
Factory salary	<u>4,540</u>		
	156,728		
Add: opening work-in-progress	23,000		
Less: closing work-in-progress	<u>36,128</u>		
Cost of goods produced	143,550		
Add: manufacturing profit of 20%	<u>28,710</u>		
Market value of goods produced transferred to trading account as purchase.	<u>172,260</u>		<u>172,260</u>

A. Ade & Sons Ltd.

Trading, Profit and Loss Account for the year ended 31st December, 2002

	₦		₦
Opening stock finished goods	17,000	Sales	228,200
Add: Market value of goods produced	<u>172,260</u>	Less: return in wards	<u>2,120</u>
Cost of goods available for sales	189,260	Net sales	226,080
less: Closing stock finished goods	<u>16,000</u>		
Cost of goods sold	173,260		
Gross profit	<u>52,820</u>		
	<u>226,080</u>		<u>226,080</u>
Less Expenses :		Gross profit b/d	52,820
Rent (4:1 of 3,200)	640	Manufacturing profit	28,710
		b/d	
Rate (4:1 of 4,800)	960	Discount received	1,200
Selling expenses	5,100		
Office salaries 6,200			
Add: Office salaries due <u>1,200</u>	7,400		
Discount allowed	2,800		
Insurance: 1,260			
Less prepayment <u>400</u>	172		
(4:1 of 1160) 1,160			
General Expenses : 4260			
Less advance payment <u>146</u>	4114		
Advertising	6,124		
Carriage outwards	1,200		
Bad debts written-off	680		
Net profit	<u>53,540</u>		
	<u>82,750</u>		<u>82,750</u>

Allocation of mark, 2 marks for each entry

Account Name: A Ade and Sons Ltd

Account Type: Manufacturing Account for the year ended 31st December, 2002.

	N
Opening stock of raw materials	18,900
Purchases raw materials	70,200
Carriage on raw materials	840
Cost of raw materials available for use	89,940
Closing stock of raw materials	15,240
Cost of raw materials used	74,700
Manufacturing wages	60,000
Direct expenses	3,200
Prime cost	137,900

Factory overhead

Rent	2,560
Rates	3,840
Insurance	688
Depreciation of plant and equipment	7,200
Factory salary	4,540
	156,728
Opening work-in-progress	23,000
Closing work-in-progress	36,128
Cost of goods produced	143,550
Manufacturing Profit	28,710
Market value of goods produced transferred	172,260

to trading account as purchase.

Total Scores 2 x 23 entries = 46marks

Trading, Profit and Loss Account for the year ended 31st December, 2002

Debit Side	₦
Opening stock finished goods	17,000
Market value of goods produced	172,260
Cost of goods available for sales	189,260
Closing stock finished goods	16,000
Cost of goods sold	173,260
Gross profit	52,820
	226,080
Less Expenses :	
Rent	640
Rate	960
Selling expenses	5,100
Office salaries	7,400
Discount allowed	2,800
Insurance:	172
General Expenses	4,114
Advertising	6,124
Carriage outwards	1,200
Bad debts written-off	680
Net profit	53,540
Total	82,750
Credit Side	
Sales	228,220
Return inwards	2,120
Net Sales	226,080
Gross Profit b/d	52,820
Manufacturing Profit b/d	28,710
Discount received	1,200

Total Scores 2x27 entries=54 marks

46 +54=100%

APPENDIX VI

LESSON PLAN (SOCRATIC METHOD) ONE

Teacher	Onaolapo Eniola
Reg. Number	M.Ed/EDUC/20396/2012-2013
Subject Combination	Business Education
Name of School	Government College Katsina (Day Wing)
Class	SS II Commercial
Number of Students	Thirty (30)
Age	Sixteen (16) years
Gender	Mixed school
Duration	Forty minutes (Single period)
Date	10 th /11/2014
Subject	Financial Accounting
Topic	Preparation of Manufacturing Account
General objectives	To teach the students how to prepare manufacturing account
Behavioural objectives	At the end of the lesson students should be able to prepare manufacturing account.
Instructional method	Socratic Method
Instructional material	Chalkboard
Entry behaviour	The students have the knowledge of the Meaning, Terminologies and Division of Manufacturing Costs.
Introduction	<p>The teacher guides the students to recall their knowledge on previous lesson by asking the following questions:</p> <p style="margin-left: 40px;">a) Manufacturing account is prepared by-----? Students' response: business that engaged in production of goods to sell</p> <p style="margin-left: 40px;">b) The purpose of manufacturing account is to . . . Students' response – to determine which is more profitable- to produce good to sell or buy such goods from outsiders to sell.</p>
Presentation	The lesson is presented in steps:

Step 1

Based on students' response the teacher presented exercise one as thus:

	₦
1 st January 2000, stock of raw materials	500
31 st December 2000, stock of raw materials	700
Raw Material Purchase	8000
Carriage on raw material	200
Manufacturing Wages	21000
Cleaner Wages	9000
Rent of factory	1000
Factory expenses	310

Required:

Prepare Zango & Co manufacturing account for the year ended 31st/December/2000

To provide answers to example 1, the teacher asks the students' one after the other the following questions.

- a) Item No. 1 stands for?
- b) Item No. 2 is treated by?
- c) How do we treat item No. 3?
- d) What is the total value of raw material available for use?

Students' take note of the exercise

Opening stock of raw materials. Deducing the value from cost of raw material consumed. To be added to opening Stock of raw material. The student responded by given the correct figure.

e) Item No 4 is direct or indirect wages

Item No. 4 is direct wages, so is to be added to cost of raw material consumed to get the prime cost. All items are overhead expenses and are to be added to prime cost to arrive at cost of production.

f) How do we treat cleaner wages, rent, and factory expenses

The teacher reacts to every student response by writing on the board, and the students' make necessary correction.

Solution

		Zango & C0		
		Manufacturing		
		Account for the		
		year ended		
		31st/12/2000.		
Dr.		N	Cr	N
Opening stock of R/M		500	Factory cost of	39,310
Add: R/M purchased	8000		production c/d	
Add: Carriage on R/M	<u>200</u>	<u>8200</u>		
Cost of raw material available for use		8700		
Less closing stock R/M		<u>700</u>		
Cost of R/M consumed		8000		
Add: Manufacturing wages		<u>2000</u>		
Prime cost		<u>29,000</u>		

<u>Factory overhead Expenses</u>			
Cleaner wage	9000		
Rent of factory	1000		
Factory expenses	310		
		<u>10,310</u>	
Factory cost of production		<u>39,310</u>	<u>39,310</u>

Summary	The teacher summarized the lesson and highlights the major key points.	The students participate in the summary of the lesson by asking questions where necessary.
Evaluation	The teacher evaluates by asking the following questions: a) What are the components of prime cost b) Mention items of overhead expenses.	

APPENDIX

LESSON PLAN (SOCRATIC METHOD) TWO

Teacher	Onaolapo Eniola
Reg. Number	M.Ed/EDUC/20396/2012-2013
Subject Combination	Business Education
Name of School	Government College Katsina (Day Wing)
Class	SS II Commercial
Number of Students	Thirty (30)
Age	Sixteen (16) years
Gender	Mixed school
Duration	Forty minutes (Single periods)
Date	13 th / 11/ 2014
Subject	Financial Accounting
Topic	Preparation of Manufacturing Account
General objectives	To teach the students how to prepare manufacturing account up to trading,
Behavioural objectives	profit and loss accounts At the end of the lesson students should be able to prepare manufacturing account, trading, profit and loss accounts
Instructional method	Socratic Method
Instructional material	Chalkboard
Entry behaviour	The students have the knowledge of how to prepare Manufacturing Account.
Introduction	The teacher guides the students to recall their knowledge on previous lesson by asking the following questions: a) Manufacturing account is prepared by-----? Students' response: business that engaged in production of goods to sell b) The purpose of manufacturing account is to . . . Students' response – to determine which is more profitable- to produce good to sell or buy such goods from outsiders to sell.
Presentation	The lesson is presented in steps:

Step 1

The teacher gives an illustration on preparation of manufacturing account, trading, profit and loss account

Student take note of the exercise by writing in their books

Exercise II

Justina is a well known manufacturer of polythene bags. At the end of the trading year Dec. 2006 she had the following:

	₦
1 st Jn. 2006 stock of raw material	800
1 st Jan. 2006 finished goods	7500
1 st Jan. 2006 WIP	350

During the year she had the following entries in her books.

	₦
Purchases of raw materials	21,000
Wages:	
Direct	4,000
Indirect	1000
Carriage on sales	340
Carriage on raw materials	260
Factory expenses	1200
Sales	45000
Rent of factory	2,000
Lubricant	200
Return outward raw materials	1,500

Additional information:

- $\frac{3}{4}$ of rent to be chargeable to manufacturing account.
- Discount allowed ₦261, bad debt written-off ₦ 150

- 10% of the net cost of production should be charged as manufacturing profit.

Stock 31st Dec. 2006:

Raw materials –	1050
WIP -	420
Finished goods –	470

Required

Determine the market value of goods produced and prepare Manufacturing Account, Trading and Profit Account for the year ended 31/Dec/2006.

Step 2

The teacher call on students one after the other and ask to explain how each item in the question is to be treated. The teacher reacts to students' correct answer by posting each item in the account on the board.

The students write the solution in their books from the board.

Solution

Justina Venture
Manufacturing Account for the year ended 31st/12/2006

Dr.	₦	Cr	₦
Opening stock R/M	800	market Value of goods Produced c/d	30074
Add: Purchase of R/M	21,000		
Carriage on R/M	260		
	<u>21,260</u>		
Less returns: R/M	1,500		
	<u>19760</u>		
Cost of R/M available for use	20560		
Less closing stock: R/M	<u>1050</u>		
Cost of R/M consumed	19510		
Add:			
Direct wages	<u>4000</u>		
Prime cost	23510		
<u>Factory overhead expenses</u>			
Indirect wages	1000		
Factory expenses	1200		
Rent (3/4 of 2000)	1500		
Lubricant	<u>200</u>		
Gross cost of production	27,410		
Add: WIP at start	<u>350</u>		
	27760		
Less: WIP at end	<u>420</u>		
Net cost of Production	27340		
Add: 10% manufacturing profit	<u>2734</u>		
Market value of goods produced	<u>30074</u>		<u>30074</u>

Trading and Profit and Loss Account for the Year Ended 31/12/2006

Dr.	N	Cr.	₦
Opening Stock: FG	7500	Sales	45000
Add: Market value of goods produced	<u>30074</u>		
Cost of goods available for sale	37574		
Less: Closing stock: FG	<u>470</u>		
Cost of goods sold	37104		
Gross profit	<u>7896</u>		
	<u>45000</u>		<u>45000</u>
		Gross profit b/d	7896
		Manufacturing profit	2734
<u>Less expense:</u>			
Carriage on sale	340		
Rent (1/4 of 2000)	500		
Discount allowed	216		
Bad debt written off	150		
Net profit	<u>9379</u>		
	<u>10630</u>		<u>10630</u>

APPENDIX

LESSON PLAN (INTERACTIVE METHOD) ONE

Name of Teachers	Onaolapo Eniola
Reg. Number:	M.Ed/EDUC/20396/2012-2013
Subject Combination	Business Education
Name of School	Government College Katsina (Day Wing)
Class	SS II commercial
Number of Students	Thirty (30)
Age	Sixteen (16) years
Gender	Mixed school
Duration	Forty minutes (Single period)
Date	12 th /11/ 2014
Subject	Financial Accounting
Topic	Preparation of Manufacturing Account
General Objective	To teach the students preparation of manufacturing account
Behavioural objective	At the end of the lesson the students should be able to prepare manufacturing account.
Instructional method	Interactive Method
Instructional materials	Chalkboard
Entry behaviour	The students' have the knowledge of the Meaning. Terminologies and Division of Manufacturing Costs.
Introduction	<p>The teacher reverses with the students on their previous knowledge on meaning, terminologies and division of manufacturing costs.</p> <p>Every business enterprises is expected to prepare this account, trading section is to determine gross profit and the other section as the name implies is to determine net profit of a business. However there is a situation where a business operation includes manufacturing of goods to sell, such business prepares manufacturing account first before trading, profit and loss account. Our topic will be preparation of manufacturing account.</p>

Presentation	The lesson is presented in steps:			
Approach	Teacher Activity		Students activity	
Step I	Based on students' contribution on their previous knowledge, the teacher present illustration 1.		Students make necessary corrections were necessary.	
		₦		
	1 st January 2000, stock of raw materials	500		
	31 st Dec. 2000, stock of raw material	700		
	Raw Material Purchase	8000		
	Carriage on raw material	200		
	Manufacturing Wages	21000		
	Cleaner Wages	9000		
	Rent of factory	1000		
	Factory expenses	310		
	Required:			
	Prepare Zango & Co manufacturing account for the year 31 st /December/2000			
	Illustration 1 is solved on the board by the teacher with students' participation.			
	Zango & Co			
	Manufacturing Account for the year ended 31st/12/2000.			
Solution				
Dr.		N	Cr	N
Opening stock of R/M		500	Factory	39,310
Add: R/M purchased	8000		cost of	
Add: Carriage on R/M	<u>200</u>	<u>8200</u>	production	
Cost of raw material		8700	c/d	
Available for use				
Less closing stock R/M		<u>700</u>		
Cost of R/M consumed		8000		
Add: Manufacturing wages		<u>2,000</u>		
Prime cost		<u>29,000</u>		

<u>Factory overhead Expenses</u>			
Cleaner wage	9000		
Rent of factory	1000		
Factory expenses	310		
		<u>10,310</u>	
Factory cost of production		<u>39,310</u>	<u>39,310</u>

Summary	The teacher goes over the lesson and highlights the major key point's worth of remembering.	The students participated through their contribute to the summary of the lesson and ask question where necessary.
Evaluation	The teacher evaluates by asking the following questions: a) what are the element of prime costs. b) mention items of factory overhead expenses	

LESSON PLAN (INTERACTIVE METHOD) TWO

Name of Teachers	Onaolapo Eniola
Reg. Number:	M.Ed/EDUC/20396/2012-2013
Subject Combination	Business Education
Name of School	Government College Katsina (Day Wing)
Class	SS II commercial
Number of Students	Thirty (30)
Age	Sixteen (16) years
Gender	Mixed school
Duration	Forty minutes (Single period)
Date	14 th / 11/ 2014
Subject	Financial Accounting
Topic	Preparation of Manufacturing Account
General Objective	To teach the students preparation of manufacturing account up to
Behavioural objective	trading, profit and loss accounts At the end of the lesson the students should be able to prepare manufacturing account, trading, profit and loss accounts
Instructional method	Interactive Method
Instructional materials	Chalkboard
Entry behaviour	The students' have the knowledge of how to prepare Manufacturing Costs.
Introduction	The teacher reverses with the students on their previous knowledge on meaning, terminologies and division of manufacturing costs. Every business enterprises is expected to prepare this account, trading section is to determine gross profit and the other section as the name implies is to determine net profit of a business. However there is a situation where a business operation includes manufacturing of goods to sell, such business prepares manufacturing account first before trading, profit and loss account. Our topic will be preparation of manufacturing account.
Presentation	The lesson is presented in steps

Step 1

The teacher presents an exercise for preparation of Manufacturing, Trading, Profit and Loss Accounts.

Students take note of the exercise by writing in their books.

Exercise II

Justina is a well known manufacturer of polythene bags. At the end of the trading year Dec. 2006 she had the following:

	₦
1 st Jn. 2006 stock of raw material	800
1 st Jan. 2006 finished goods	7500
1 st Jan. 2006 WIP	350

During the year she had the following entries in her books.

Purchases of raw materials	21,000
Wages:	
Direct	4,000
Indirect	1,000
Carriage on raw materials	260
Factory expenses	1200
Sales	45000
Rent of factory	2,000
Lubricant	200
Return outward raw materials	1,500

Additional information:

- $\frac{3}{4}$ of rent to be chargeable to manufacturing account.

- Discount allowed ₦261, bad debt written-off ₦150
- 10% of the net cost of production should be charged as manufacturing profit

31st Dec. 2006:

Raw materials –	1050
WIP -	420
Finished goods–	470

Required

Determine the market value of goods produced and prepare manufacturing account, trading and profit account for the year ended 31/Dec/2006.

Step 2

The teacher guides the students toward providing solution to the exercise by providing extra information to clarify a point. The teacher call on student one after the other to respond to each question item. For every wrong response, another student will be asking upon to provide answer before the teacher will provide the correct answer. The teacher keep a progressive record of all responds by writing on the board.

The students to first identified items of manufacturing account from the question by placing an asterisk sign by the side of each item.

Justina Venture

Manufacturing Account for the year ended 31st/12/2006

Dr.	N	Cr.	₦
Opening stock: R/M	800	market Value of goods	30074
Add: Purchase of: R/M	21,000	Produced c/d	
Carriage on: R/M	260		
	<u>21,260</u>		
Less returns R/M	1,500		
	<u>19760</u>		
Cost of R/M available for use	20560		
Less closing stock: R/M	<u>1050</u>		
Cost of R/M used or consumed	19510		
Add:			
Direct wages	<u>4000</u>		
Prime cost	23510		
<u>Factory overhead expenses</u>			
Indirect wages	1000		
Factory expenses	1200		
Rent (3/4 of 2000)	1500		
Lubricant	<u>200</u>		
Gross cost of production	27,410		
Add: WIP at start	<u>350</u>		
	27760		
Less: WIP at end	<u>420</u>		
Net cost of Production	27340		
Add: 10% manufacturing profit	<u>2734</u>		
Market value of foods produced	<u>30074</u>		<u>30074</u>

Trading and Profit and Loss Account for the Year Ended 31/12/2006

Dr.	N	Cr.	₦
Opening Stock: FG	7500	Sales	45000
Add: Market value of goods produced	<u>30074</u>		
Cost of goods available for sale	37574		
Less: Closing stock: FG	<u>470</u>		
Cost of goods sold	37104		
Gross profit	<u>7896</u>		
	<u>45000</u>		<u>45000</u>

Gross profit b/d	7896
Manufacturing profit	2734

Less expense:

Carriage on sale	340	
Rent (1/4 of 2000)	500	
Discount allowed	216	
Bad debt written off	150	
Net profit	<u>9379</u>	
	<u>10630</u>	<u>10630</u>

Summary	The teacher goes over the lesson and highlights the major key point's worth of remembering.	The students participated through their contribute to the summary of the lesson and ask question where necessary.
---------	---	---

APPENDIX

LESSON PLAN (LECTURE METHOD)

Teacher	Onaolapo Eniola
Reg. Number	M.Ed/EDUC/20396/2012-2013
Subject Combination	Business Education
Name of School	Government College Katsina (Day Wing)
Class	SS II Commercial
Number of Students	Thirty (30)
Age	Sixteen (16) years
Gender	Mixed school
Duration	1hr:20minutes (Double period at forty minutes per period)
Date	18 th /11/2014
Subject	Financial Accounting
Topic	Preparation of Manufacturing Account
General objectives	To teach the students how to prepare manufacturing account
Behavioural objectives	At the end of the lesson students should be able to prepare manufacturing account.
Instructional method	Lecture Method
Instructional material	Chalkboard
Entry behaviour	The students have the knowledge of the Meaning, Terminologies and Division of Manufacturing Costs.
Introduction	<p>The teacher guides the students to recall their knowledge on previous lesson by asking the following questions:</p> <p style="margin-left: 40px;">a) Manufacturing account is prepared by-----? Students' response: business that engaged in production of goods to sell</p> <p style="margin-left: 40px;">b) The purpose of manufacturing account is to . . . Students' response – to determine which is more profitable- to produce good to sell or buy such goods from outsiders to sell.</p>
Presentation	The lesson is presented in steps:

Step 1

Based on students' response the teacher presented exercise one as thus:

	₦
1 st January 2000, stock of raw materials	500
31 st December 2000, stock of raw materials	700
Raw Material Purchase	8000
Carriage on raw material	200
Manufacturing Wages	21000
Cleaner Wages	9000
Rent of factory	1000
Factory expenses	310

Required:

Prepare Zango & Co manufacturing account for the year ended 31st/December/2000

Step II

The teacher explains how each transaction is treated one after the other. The teacher posts all entries to the account on black board.

Solution

**Zango & C0
Manufacturing
Account for the
year ended
31st/12/2000.**

Dr.	N	Cr	N
Opening stock of R/M	500	Factory cost of	39,310
Add: R/M purchased 8000		production c/d	
Add: Carriage on R/M <u>200</u>	<u>8200</u>		
Cost of raw material available for use	8700		
Less closing stock R/M	<u>700</u>		
Cost of R/M consumed	8000		

Add: Manufacturing wages		<u>2000</u>	
Prime cost		<u>29,000</u>	
<u>Factory overhead Expenses</u>			
Cleaner wage	9000		
Rent of factory	1000		
Factory expenses	310		
		<u>10,310</u>	
Factory cost of production		<u>39,310</u>	<u>39,310</u>

Summary	The teacher summarized the lesson and highlights the major key points.	The students participate in the summary of the lesson by asking questions where necessary.
Evaluation	The teacher evaluates by asking the following questions: a) What are the components of prime cost b) Mention items of overhead expenses.	

APPENDIX VII

Students' Pre-test and Post-test Scores

Socratic Teaching Method			Interactive Teaching Method			Lecture Teaching Method		
S/N	Pretest	Posttest	S/N	Pretest	Posttest	S/N	Pretest	Posttest
1	55	75	1	50	85	1	55	70
2	50	60	2	45	72	2	52	58
3	50	65	3	39	60	3	44	55
4	45	60	4	42	70	4	40	50
5	42	57	5	41	65	5	40	46
6	25	50	6	45	70	6	50	52
7	40	50	7	38	60	7	53	64
8	36	46	8	36	50	8	49	40
9	35	61	9	32	50	9	39	41
10	36	45	10	40	60	10	48	39
11	40	68	11	28	45	11	35	28
12	55	70	12	50	80	12	32	50
13	45	65	13	40	60	13	36	34
14	35	54	14	42	65	14	40	55
15	30	43	15	38	55	15	43	40
16	30	50	16	30	50	16	43	50
17	25	40	17	42	65	17	40	38
18	20	50	18	32	50	18	30	41
19	25	50	19	25	50	19	25	43
20	35	55	20	24	45	20	47	60
21	42	58	21	25	66	21	45	48
22	35	44	22	18	45	22	50	65
23	42	62	23	15	55	23	36	34
24	40	65	24	40	55	24	21	26
25	25	50	25	44	68	25	25	50
26	20	43	26	35	50	26	21	40
27	30	55	27	12	44	27	25	35
28	30	52	28	16	55	28	18	30
29	10	30	29	12	42	29	15	25
30	10	20	30	10	40	30	12	21
Total	1038	1593	Total	986	1725	Total	1108	1328
GCK Day-wing Experimental Group 1			GCK Day-wing Experimental Group 11			GGTCC Charanchi Control Group		

APPENDIX VIII- External Examination Result Analysis

Table 1.1 MAY/JUNE WASSEC Result Analysis by Schools for 2008

S/N	NAME OF SCHOOLS	NO. PRESENTED	CREDIT&ABOVE	%
1	GCK PILOT SENIOR KATSINA	98	NIL	00.0
2	GCK SENIOR DAY WING	NIL	NIL	NIL
3	GGTCC CHARANCHI	56	56	100
4	GSSS KANKIA	43	39	90.6
5	GUSSS MALUMFASHI	42	08	19.04
6	GGSSS DAURA	NIL	NIL	NIL
7	GPSS DAURA	76	11	14.5
8	GCC MAI-ADUA	51	36	70.6
	TOTAL	366	150	41

SOURCE: Ministry of Education Katsina (2013)

Table 1.2 MAY/JUNE WASSEC Result Analysis by Schools for 2009

S/N	NAME OF SCHOOLS	NO. PRESENTED	CREDIT&ABOVE	%
1	GCK PILOT SENIOR KATSINA	48	10	20.1
2	GCK SENIOR DAY WING	NIL	NIL	NIL
3	GGTCC CHARANCHI	18	18	100
4	GSSS KANKIA	38	09	23.7
5	GUSSS MALUMFASHI	47	NIL	00.0
6	GGSSS DAURA	47	NIL	00.0
7	GPSS DAURA	39	NIL	00.0
8	GCC MAI-ADUA	104	86	82.7
	TOTAL	341	123	36.1

Source: Ministry of Education Katsina (2013)

Table 1.3 MAY/JUNE WASSEC Result Analysis by Schools for 2010

S/N	NAME OF SCHOOLS	NO. PRESENTED	CREDIT&ABOVE	%
1	GCK PILOT SENIOR KATSINA	68	02	2.9
2	GCK SENIOR DAY WING	NIL	NIL	NIL
3	GGTCC CHARANCHI	33	32	97
4	GSSS KANKIA	36	11	30.6
5	GUSSS MALUMFASHI	41	01	2.4
6	GGSSS DAURA	46	NIL	00.0
7	GPSS DAURA	62	04	6.6
8	GCC MAI-ADUA	105	103	98.1
	TOTAL	391	153	39.1

Source: Ministry of Education Katsina(2013)

Table 1.4 MAY/JUNE WASSEC Result Analysis by Schools for 2011

S/N	NAME OF SCHOOLS	NO. PRESENTED	CREDIT&ABOVE	%
1	GCK PILOT SENIOR KATSINA	101	NIL	00.0
2	GCK SENIOR DAY WING	NIL	NIL	NIL
3	GGTCC CHARANCHI	59	59	100
4	GSSS KANKIA	42	06	14.3
5	GUSSS MALUMFASHI	50	04	8
6	GGSSS DAURA	41	01	2.4
7	GPSS DAURA	62	06	9.7
8	GCC MAI-ADUA	82	80	97.6
	TOTAL	437	156	35.7

Source: Ministry of Education Katsina (2013)

Table 1.5 MAY/JUNE WASSEC Result Analysis by Schools for 2012

S/N	NAME OF SCHOOLS	NO. PRESENTED	CREDIT&ABOVE	%
1	GCK PILOT SENIOR KATSINA	74	NIL	00.0
2	GCK SENIOR DAY WING	167	07	4.2
3	GGTCC CHARANCHI	59	22	37.3
4	GSSS KANKIA	38	14	36.8
5	GUSSS MALUMFASHI	63	NIL	00.0
6	GGSSS DAURA	65	01	1.5
7	GPSS DAURA	85	NIL	00.0
8	GCC MAI-ADUA	62	59	95.2
	TOTAL	613	103	16.8

Source: Ministry of Education Katsina (2013)