

**EFFECTS OF JIGSAW AND THINK-PAIR-SHARE METHODS ON
STUDENTS' ACADEMIC PERFORMANCE IN ACCOUNTING IN
COLLEGES OF EDUCATION IN NORTH-EAST, NIGERIA**

BY

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**DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION,
AHMADUBELLOUNIVERSITY,
ZARIA**

APRIL, 2017

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES,
AHMADU BELLO UNIVERSITY, ZARIA**

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

**DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION,
FACULTY OF EDUCATION,
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ZARIA, NIGERIA**

APRIL, 2017

DECLARATION

I declare that the work in this dissertation titled Effects of Jigsaw and Think-pair-share Methods on Students' Academic Performance in Accounting in Colleges of Education in North-East, 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 the list of references provided. No part of this dissertation was previously presented for the award of a higher degree or diploma at this or any other institution.

Umar Badejo ISA

Date

CERTIFICATION

This dissertation titled “EFFECTS OF JIGSAW AND THINK-PAIR-SHARE METHODS ON STUDENTS’ ACADEMIC PERFORMANCE IN ACCOUNTING IN COLLEGES OF EDUCATION IN NORTH-EAST, NIGERIA” by Umar Isa BADEJO meets the regulation governing the award of the Master's Degree of the Ahmadu Bello University and is approved for its contributions to knowledge and literary presentation.

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DEDICATION

This research work is dedicated to late Alhaji Isah Haladu Badejo and my Son Isah Umar Badejo and my loving wife Fatima Abubakar and children Aisha Umar, Abdullahi Umar and Sai'd Umar.

ACKNOWLEDGEMENTS

The researcher wishes to acknowledge the willing cooperation and assistance of a number of people without whom the completion of this research would not have been possible. The researcher must grateful to his supervisors, Prof. A.A. Udoh and Dr. S.S. Amoor, for their guidance, encouragement, constructive feedback and considerable tolerance throughout the period in which the research work was carried out. The researcher also likes to acknowledge the contribution of his internal examiners; Prof. J. N. Kwasau and Dr. C. Uguru for their valuable contributions to the work.

The researcher's gratitude also goes to other individual personalities in the Department of Vocational and Technical Education such as Dr. S. Ibrahim, Dr. T. J. Adeshina, Dr. I. Adamu, Dr. B. I. Okeh, Dr. R. T. Umar, Dr. A. Hussaini and others too numerous to be mentioned for their individual and collective contributions to the successful completion of this dissertation.

The researcher also acknowledges the contributions of his family members, such as Saidu Haladu and his family, Bawa Makeri and his family and Zuberu Ayuba for their contribution financially and spiritually during this research work May God bless them all. The researcher's sincere appreciation goes to A. Bukhari of Department of the Home Economic for his guidance and assistance. The researchers also wish to acknowledge the contribution of his class members such as A. Musa, A. Ado, H. A. Hamza, H. A. Abdullahi, F. Kabir, F. Ndidimaka, S. kaza, O. O. Onaolapo, M. S. Suraj and A. M. Saleh may Allah bless you all. **In the same vein, the researcher's sincere appreciation goes to his loving wife F. Abubakar and children A. S. Umar, A. Umar and S. Umar Ultimately, all praise is due to Allah (SWT) for his guidance and his protection in the cause of carrying out this research work.**

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OPERATIONAL DEFINITION OF TERMS

The following words are defined as used in the study

Jigsaw Method: An instructional strategy in which students are grouped and teacher assigns a task to them to solve.

Think-Pair-Share Method: Is a cooperative learning technique that encourages individual participation and is applicable across all grade levels and class size. Students think using three distinct steps, think, pair, and shares

ABSTRACT

This study investigates the effects of the jigsaw and think-pair-share methods on students performance in principles of account in colleges of education in north-east Nigeria. The study has five objectives, five research questions were raised to guide the study while five null hypotheses were formulated and tested at 0.05 level of significance. A quasi-experimesntal design was adopted for the study. The population of the study was 900 NCE business education students in colleges of education in north-east, who offered principles of accounts in 2015/2016 academic session. One hundred and twenty (120) students were taught in their intact classes. The instruments used to generate data for the study was Principles of Accounts Achievement Test (PAAT). Mean and standard deviations were used to answer the stated research questions. Simple Regression analysis was used to test null hypotheses one and two, while t-test statistic was employed in testing null hypotheses three, four and five. From the results of the study, null hypotheses three, four and five were retained while null hypothesis one, two were rejected. Based on the findings of the results, it revealed that Jigsaw and Think-pair-share methods had significant effects on students' academic performance in Principles of Accounts in Colleges of Education in Northeast, Nigeria. It was concluded that students taught with a jigsaw and think-pair-share methods are capable of earning better results. Based on this, five recommendations are postulated, among which to include Curriculum planners should consider the jigsaw and think-pair-share methods as effective methods for teaching principles of accounts when designing a curriculum for accounting education.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The process by which people obtain knowledge, values, skills and attitudes, is called education. The most common way to acquire a sound education is to attend school. National Policy on Education (2004) emphasizes the goals of education in Nigeria to include inculcation of the right type of values, attitudes, communication skills as well as life-long skills. These goals are attainable through effective classroom interaction. Interaction occurs between the teacher and the learner through the process of teaching and learning process. Teaching, which is the primary function of a teacher; it entails giving instruction, imparting knowledge, facts, skills, attitudes, interests and aptitude.

Learning is defined as the act of acquiring new, or modifying and reinforcing existing, knowledge, behaviors, skills, values, or preference which may lead to a potential change in synthesizing information, depth of the knowledge, attitude or behaviour relative to the type range of experience (Ajoma, 2009). From this definition, it is observed that the teaching and learning are moving hand-in-hand and the central purpose of the process is to affect desirable change in the learners' behavior. In order to achieve this, relevant teaching methods must be adopted by the teacher. Therefore, different teaching methods can be applied during teaching and learning of Principles of Accounts in order to make students learn better.

Principle of Accounts is part of business education NCE minimum standard that students offer in colleges of education. Principles of Accounts are 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. In order to achieves the objectives of Study Principles of Accounts in Colleges of Education,

the National Commission for College of Education (NCCE, 2012), states the objectives of studying business education in Nigeria Colleges of Education is to:

1. Produce well qualified and competent NCE graduates in business subjects who will be able to teach business subjects in our secondary schools and other related educational institutions.
2. Produce NCE business teachers who will be able to inculcate the vocational aspects of business education into the society.
3. Produce NCE Business Teachers who will be involved in the much desired revolution of vocational development right from the Primary and Secondary schools.

In order to achieve the stated objectives by NCCE, Business Education teachers should be able to employ various teaching and learning methods in the classroom. The traditional methods which is confined to transmitting information and involves telling, reading, and memorizing, and the teacher adopting the “fountain of knowledge” approach, have failed to cope with the problems of Accounting knowledge needed for development (Kohle, 2002). Appropriate methods need to be sought in passing the message of Accounting across to the learners. Ajiboye and Ajitoni (2008) observed that children learn best by being interested fully in their own work, by seeing themselves, doing themselves, by puzzling themselves, by verifying their own suppositions; by experimenting themselves, by drawing conclusions themselves on the strength of evidence which they have collected themselves. They should always make mistakes which they then should rectify themselves in the light of new information and evidence that they have uncovered themselves. This teaching methods should be participatory through social interaction, togetherness, and action-oriented communication. Jigsaw and think-pair-share methods belong to these method. Jigsaw is a grouping strategy in which the members of the class are organized into "jigsaw" groups. The students are then reorganized into "expert" groups containing one member from each jigsaw groups. The members of the expert group work together to learn

the materials or solve the problems, then return to their "jigsaw" groups to share their learning. Students work to obtain group goals that may not be obtained by working alone.

Think-pair-share method is designed to differentiate instruction by providing students time and structure for thinking on a given topic, enabling them to formulate individual ideas and share these ideas with a peer. This teaching method promotes classroom participation by encouraging a high degree of student response, rather than using a basic recitation method in which a teacher poses a question and one student offers a response (Simon, 2013). Think-pair-share is a cooperative learning strategy that includes three components, namely, time for thinking, time for sharing with a partner, and time to share among pairs to a larger group. The use of the strategy unites the cognitive and social aspects of learning, promoting the development of thinking and the construction of knowledge.

Academic performance is the outcome of education. The extent to which a students, a teachers or an institutions has achieved their educational goals. In general terms academic performance refers to what students achieve in their studies and how they cope with or accomplish different learning experiences given to them by their teachers. The successes of an educational institutions are measured by academic performance or how well a student meets the standards set out by the institution. Northeast consists of six (6) states. They are Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe state respectively. Each state has a college of education.

It is based on the stated background that the researcher intended to find out the effects of Jigsaw and Think-pair-share methods on students' academic performance in Principles of Accounts in Colleges of Education in Northeast, Nigeria.

1.2 Statement of the problem

Accounting is a basic need of every business education students (Ibrahim, 2010). It is a discipline of study that all people, regardless of job position, should have some knowledge of, but despite the importance of accounting, it is unfortunate to observe that, a significant number of students cannot cope with the challenges of skills and technicalities in the subject. This tends to affect students' interest in accounting education. Principles of Accounts is being offered as a major course for the attainment of NCE business education, but the issues of students failure have been at an alarming rate. The problems of massive students failure in accounting have been issues of discussion to accounting students, lecturers, and the society at large. Olowudun, (2010) observed that accounting education provided by Nigerian colleges of education is more examination oriented than of life's practical value, which thereby results in poor performance of students in examinations. However, it has been observed that the learning of accounting depends on the effective teaching of the subjects and available resources. Based on the data collected from the colleges visited by the researcher, the performance of students for the past five years were as: 60.2% failed in 2010, 53.6% failed in 2011, 57.0% failed in 2012, 56.5% failed in 2013 and 48.54% failed in 2014. However, the failure in Principles of Accounts was characterized by gender sensitive factors as observed by the researcher in the past three years stood as:

Table	2013	2014	2015
Male	21.33	22.40	33.89
Female	35.25	26.10	13.00

Source: Academic Planning of Colleges of Education, 2015

Therefore, the persistent increase in poor performance of colleges of education students in Principles of Accounts needs to be addressed. If it is not properly addressed this could affect the overall performance of accounting students in colleges of education in Northeast. One way to do this is to employ an effective teaching and learning methods.

Therefore, this study was designed to see whether students' performance in Principles of Accounts could be improved when jigsaw and think-pair-share methods are employed.

This research study is therefore designed to determine the effects of the jigsaw and think-pair-share method on business education students' academic performance in Principles of Accounts in Colleges of Education of North East, Nigeria.

1.3 Objective of the Study

The major objective of this research work is to assess the effects of jigsaw and think-pair-share methods on students' academic performance in Principles of Accounts in Colleges of Education in North East, Nigeria. The specific objectives of this study are to:

1. determine the effect of jigsaw method on the academic performance of business education students in Principles of Accounts in Colleges of Education in Northeast, Nigeria.
2. determine the effect of the think-pair-share method on the academic performance of business education students in Principles of Accounts in Colleges of Education in Northeast, Nigeria.
3. establish whether any difference exist between the academic performances of students taught Principles of Accountst using jigsaw method and that of those taught using think-pair-share method in Colleges of Education in Northeast, Nigeria
4. determine if there is any difference in the performance of male and female students taught Principles of Accounts using jigsaw method in Colleges of Education in Northeast, Nigeria.
5. determine if there is any difference in the performance of male and female students taught Principles of Accounts using think-pair-share method in Colleges of Education in Northeast, Nigeria.

1.4 Research Questions

In line with the specific objectives, the following research questions were formulated to guide the study.

1. what is the effect of jigsaw method on the academic performance of business education students in Principle of accounts in Colleges of Education in Northeast, Nigeria?
2. what is the effect of think-pair-share method on the academic performance of business education students in Principles of Accounts in Colleges of Education in Northeast, Nigeria?
3. what is the differential effect between the academic performance of business education students taught using jigsaw method and those taught using think-pair-share method in Principles of Accounts in Colleges of education in Northeast, Nigeria?
4. is there any difference in the academic performances of male and female students taught Principles of Accounts using jigsaw method in Colleges of Education in Northeast, Nigeria?
5. is there any difference in the academic performances of male and female students taught Principles of Accounts using think-pair-share method in Colleges of Education in Northeast, Nigeria.

1.5 Research Hypotheses

Based on the research questions, the following null hypotheses are formulated:

- H0₁** Jigsaw method has no significant effect on students' academic performance in Principles of Accounts in Colleges of Education in northeast, Nigeria.
- H0₂** Think-pair-share method has no significant effect on students' academic performance in Principles of Accounts in Colleges of Education in Northeast, Nigeria.
- H0₃** There is no significant difference between the performance of business education students taught Principles of Accounts using jigsaw method and those taught using think-pair-share method in colleges of education in Northeast.

H0₄ There is no significant different between the academic performances of male and female students taught Principles of Accounts using jigsaw method in colleges of education in northeast, Nigeria.

H0₅ There is no significant different between the academic performances of male and female students taught Principles of Accounts using think-pair-share method in colleges of education in the northeast, Nigeria.

1.5 Significance of the study

The findings of this study are expected to be beneficial to Principles of Accounts teachers, parents, colleges of education administrators, society, business education curriculum planners, and tertiary institutions.

The findings of this study would benefit teachers of Principles of Accounts as it would help them in selection and use of appropriate teaching and learning methods that enhances students' performance. Parents would benefit from the study because the better teaching of Principles of Accounts should improve learning and performance of students. Also, colleges of education administrators will have an insight as to which appropriate methods they will advise for teaching Principles of Accounts at colleges of education.

The results of this study would be important to the society, since the students are part of the larger society. Therefore, anything that affects the students would be of interest to the society. When students graduate and get employed they will contribute to the development of the economy.

Business Education Curriculum planners should benefit from the result of this study in the sense that, it would help them to adequately plan and suggest relevant method of teaching Principles of Accounts. However, the study would expected to be used by further researchers as reference materials and empirical studies by other researchers in Principles of Accounts.

In addition, the study should benefit students in tertiary institutions because, when the lecturers apply effective teaching and learning methods, business education students' performance will likely improve and this would consequently increase the students' performance in Principle of Accounts in colleges of education in Northeast.

1.7 Basic assumptions of the study

For the purpose of this study, the following assumptions were made;

1. Students' performance in Principles of Accounts will be enhanced by the use of jigsaw and think-pair-share methods in colleges of education in the north east, Nigeria.
2. Poor performance in Principles of Accounts is caused by ineffective teaching and learning methods used in the teaching and learning process.

1.8 Delimitation of the Study

The study was delimited to effects of the jigsaw and think-pair-share methods on business education student's academic performance in Principles of Accounts in colleges of education in Northeast, Nigeria. This is because they are not commonly used by the lecturers in teaching Principles of Accounts in colleges of education in Northeast, Nigeria. The study covered both state and federal colleges of education in the zone. Among the colleges of education, the study was delimited to Federal College of Education (Technical), Gombe. This college is purposely chosen because it is among the oldest college of education where business education training first started as its foundation in northeast, zone. The study covered relevant course contents in Principles of Accounts as trading account, profits and loss account and balance sheet. This is because it is one of the compulsory topics for NCE ONE according to NCCE minimum standard.

The study was delimited to NCE I business education students because at this level they are beginners with little or no previous accounting knowledge. Therefore, their behavior in accounting can easily be changed.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter reviewed literature related to the study based on the following sub-headings:

- 2.1 Theoretical Framework
- 2.2 Conceptual Frameworks
- 2.3 Concepts of Jigsaw Method
- 2.4 Concepts of Think-pair-share Method
- 2.5 Concepts of Conventional Methods
- 2.6 Concepts of Teaching and Learning
- 2.7 Review of Empirical Study
- 2.8 Summary of Related Literature

2.1 Theoretical framework

The study was based on the Social constructivism theory developed by post-revolutionary Soviet psychologist Lev vygotsky (1978). Vygotsky was a cognitivist, but rejected the assumption made by cognitivists such as Piaget and Perry that it was possible to separate learning from its social context. He argued that all cognitive functions originate in, and must therefore be explained as products of social interactions and that learning was not simply the assimilation and accommodation of new knowledge by learners; it was the process by which learners were integrated into a knowledge community. According to Vygotsky (1978), every function in the child's cultural development appears twice: first, on the social level and, later on, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals.

Vygotsky accepted Piaget's claim that learners respond not to external stimuli but to their interpretation of those stimuli. However, he argued that cognitivists such as Piaget had overlooked the essentially social nature of language. As a result, he claimed they had failed to understand that learning is a collaborative process. Vygotsky distinguished between two developmental levels. The level of actual development is the level of development that the learner has already reached, and is the level at which the learner is capable of solving problems independently. The level of potential development (the "zone of proximal development") is the level of development that the learner is capable of reaching under the guidance of teachers or in collaboration with peers. The learner is capable of solving problems and understanding materials at this level that they are not capable of solving or understanding at their level of actual development; the level of potential development is the level at which learning takes place. It comprises cognitive structures that are still in the process of maturing, but which can only mature under the guidance of or in collaboration with others.

Vygotsky's theory of learning tends to focus on a one-on-one relationship between teacher (significant other) and child. As such it does not extend to the realities of the classroom setting where social organisation becomes a key factor. It also fails to acknowledge the role of peer conversation in the learning process.

Implications of this theory to this current study is that, it require learners to develop teamwork skills and to see individual learning as essentially related to the success of group learning. The optimal size for group learning is four or five people. Since the average section size is three (3) to five (5) people, jigsaw and think-pair-share methods often require to break students into smaller groups, although discussion sections are essentially in jigsaw and think-pair-share methods. For instance, in group investigations, students may be split into groups that are then required to choose and research a topic from a limited area. They

are then held responsible for learn certain topic and presenting their answers to the class. More generally, jigsaw and think-pair-share methods should be seen as a process of peer interaction that is mediated and structured by the teacher. Discussion can be promoted by the presentation of specific concepts, problems, or scenarios; it is guided by means of effectively directed questions, the introduction and clarification of concepts and information, and references to previously learned material. Some more specific techniques are suggested in the Teaching.

In summary, this theory is relevant to this study since jigsaw and think-pair-share methods help learners discover meaning of concepts personally through the manipulation of the teaching materials provided by the teachers in the classroom.

2.2 Conceptual Framework

For the purpose of this study, the following concepts were discussed

- a. the concept of business education
- b. the concept of accounting
- c. the concept of academic performance
- d. Gender differences and academic performance

2.2.1 Concept of Business Education

Business education as a concept cannot be subjected to a single definition. It is a field of study which has been attracting the attention of many scholars, educational stakeholders, parents, and students. Business Education is a type of training which, while playing its part in the achievement of the general aims of education on any given level, has its primary objective as the preparation of people to enter into a career, to render efficient service and to advance from their present level of employment to higher levels (Osuala, 2003).

Basic Business Education affords to every individual an opportunity to develop the skills, abilities, and understanding that will enable him to handle competently his personal business affairs; to develop an understanding of the vocational opportunity available in the broad field of business and to assume his citizenship responsibilities through enlightened participation in, as well as an understanding and appreciation of the business system (Osuala2003). Furthermore, Basic Business Education is the broad area of knowledge that deals with the economy. It identifies and explains the role of business as an economic institution and provides content and experience that prepare the individual for effective participation as a citizen and consumer.

Aliyu (2007) stated that Business Education is an aspect of education that prepares people to enter into the business world, to participate in productive activities in an attempt to meet up with the societal needs and in another view, Ibrahim (2010) suggested that business education encompasses of knowledge, attitude and skills needed by all citizens in order to effectively manage their personal resources and participate effectively in the economic system. The National Policy on Education (2004) defines Business Education as that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. In the same vein, Uramah (2003) defined Business Education as the aspect of the total educational program that provides the knowledge, skills, understanding and attitudes needed to perform in the business world.

According to Ohiwerei (2014), business education is a process which upon graduation, business educators are expected to work in offices as well as to teach students business subjects. It is a process which creates no missing link between the students and teaching industries as well as other industries also to be able to make wise use of financial reward in order to attain a successful living.

In his contribution, Adeniji (2002) noted that Business Education is that part of total education which, apart from providing adequate general education at specific levels, aims at preparing youth for work in business, industry and the office. However, Adeniji (2002) further noted that Business education aims at providing occupation and career orientation and exploration of job opportunities and requirement in business. It helps in the development of occupational knowledge, attitudes, and skills in the clerical, stenographic, book-keeping and accounting, data processing, marketing and sales, office administration, business ownership and management fields. The focus of Business Education includes: to educate individuals for and about business, to provide a continuous program of planned living experiences, to produce and distribute goods and services as a worker, to be able to use products as intelligent consumers; and to make judicious socio-economic decisions as citizens.

Ikpe and Undie (2014) pointed out that Business Education refers to those business subjects taught at the secondary school level such as Typewriting, Shorthand, Book-keeping, Business law, General business and similar other subjects. Views from this perspective, Business Education, therefore, consist of that group of related, occupationally focused and general education subjects systematically arranged which are prescribed for possible certification. Policies Commission for Business and Economic Education in Ikpe and Undie (2014) stated that Business education represents a broad and diverse discipline that is included in all types of educational delivery system, elementary, secondary and post-secondary. The Commission went further to state the following as the mission of Business Education:

- i. To educate individuals for and about business.
- ii. To provide a continuous program of planned learning experience designed to equip individuals to fulfill effective three roles namely: (a) to produce and distribute goods

and services as workers (b) to use the result of production as consumers and (c) to make judicious socioeconomic decisions as citizens.

- iii. To provide career information that helps students relate their interests, needs, and abilities to occupational opportunities in business.
- iv. To provide educational opportunities for students preparing for careers in fields other than business to acquire business knowledge and skills needed to function effectively both in oral and written communication and to develop effective interpersonal and human relations skills.

Based on the professional definitions of Business Education as discussed above, Business Education could be seen as a discipline or area of study that deals with the preparation of youths to acquire skills, attitudes, and knowledge which will help them to function effectively in their careers as teacher's/office workers and as well as an entrepreneur. Therefore, the researcher sees the business education as a program designed to equip the learner with all necessary skills, knowledge, attitudes and habit that will enable individual to perform effectively and competently in any area of his career choice. The study further stated that the knowledge of business education courses exposed the students to different investment, job creation abilities and encourage the individual to be self-reliance, promptness, commitment, courtesy manner, and orderliness.

2.2.2 Concept of Accounting Education

Accounting as a core subject in Business Education is offered in both secondary schools and tertiary institutions in Nigeria. According to Olarinoye (2015) big or small organizations, governments, as well as individuals in their daily activities, deal with money and monetary transaction with one another. Therefore, the need for accounting cannot be overemphasized especially in relation to keeping records. Accounting is always practiced in virtually every business dealings. Accounting is a discipline that involves the process of measuring, interpreting, and communicating financial information decisions. The main

objective of accounting is to provide information necessary for economic decisions. (Ezeani, 2008).

According to Asaola (2002) Accounting is a process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to the users for objective assessment and decision making. Accounting data is processed into accounting information through the use of accounting principles and conventions. The accounting principles are known as General Accepted Accounting Principles. They are the basic fundamental which guide accountants in recording, appreciating and assessing accounting information as well as the preparation and interpretation of the financial statement. The accounting information system is proven, time-honored, and its format is universally understood. Book of accounts prepared by accountants in one part of the world is easily understood by their counterparts in other parts of the world because the information system is based on the principles that are widely accepted and globally used.

Business education students are taught Accounting at the various levels of education aimed at making them functional, creative and enterprising. Umar (2010) defined Accounting as a discipline concerned with the recording, analysis, and forecasting of income and wealth of business and other entities recorded in money terms. In the same view, Accounting is the process of recording, classifying, selecting, measuring, interpreting and communicating financial data of an organization to enable users to make assessments and decision. (Longe and Kazeen, 2002). However, according to Agbata (1999), accounting is the art of recording, classifying, summarizing, reporting in a significant manner and in terms of money, the transactions and events which are in part at least of a financial nature, and the interpretation of the results. Accounting is a set of theories, concepts (or ideas), and techniques for which financial data are processed into meaningful information for reporting, planning, controlling, and decision making purpose (Ama, 2000).

However, it is the process of recording, classifying, and organizing accounting information, for the benefit of management and other interested users. Asaolu (2002) stated that accounting is the process of recording, classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to the users for objective assessment and decision making. Accounting, therefore, is a service activity and its function is to provide quantitative information, primarily financial in nature about economic entities that is intended to be useful in making economic decisions.

Accounting provides indispensable services to the world and the societies at large. Accounting provides information to various users of financial statements for informed decision making. These users include investors, employers, employees, lenders, suppliers, customers, tax authorities, governments and their agencies (Ezeani, 2008). Based on these definitions, Accounting has many branches which include; financial accounting, principles of accounting, cost, and management accounting among others.

Asaolu (2002) said, “financial accounting is the process of recording classifying, selecting, measuring, interpreting, summarizing and reporting financial data of an organization to the users for objective assessment and decision making”. Accounting data are processed into accounting information through the use of accounting principles and conventions.

Accounting theory has been defined by Ibrahim (2011) as logical reasoning in the form of a set of broad principles that provide a general frame of reference by which accounting can be evaluated, guide the development of new practices and procedures, and provide a coherent set of logical principles that form the general frame of reference for the evaluation and development of sound accounting practices.

2.2.3 Concepts of Academic Performance

Academic performance refers to what students achieve in their studies and how they cope with or accomplish different learning experience given to them by their teachers. Academic performance represents performance outcomes that indicate the extent to which a person has accomplished a specific goal that was the focus of activities in instructional environments, specifically in school, college, and university. Academic performance plays an important role in every person's life. Academic performance as measured by the GPA (Grade Point Average) or by standardized assessments designed for selection purpose such as the SAT (Scholastic Assessment Test) determines whether a student will have the opportunity to continue his or her education example, (to attend a university). Therefore, academic performance defines whether one can take part in higher education, base on the educational degrees one attains and also influences one's vocational career after graduation (Richard, 2015).

Academic performance is the outcome of education, the extent to which some students, teacher or institution have achieved their educational goals. However, Moradeyo, (2015) stated that academic performance refers to what students achieve in their studies and how they cope with or accomplish different learning experiences given to them by their teachers. The successes of an educational institution are measured by academic performance or how well a students meets the standards set out by the institution. The performance of students has for long generated a lot of interest among educators, researchers, government officials, parents, and the students themselves. Many studies have examined the factors that influence students performance in the primary, secondary as well as tertiary education levels, with the purpose of enhancing learning at these stages and reducing the level of drop-out.

The performance of students, in line with Gouch (2009) can generally, be referred to as the way and manner students deal with their studies and how they cope with or

accomplish different tasks given to them by their teachers. In other words, it is students' ability to study and remember facts and be able to communicate knowledge verbally or down on paper.

2.2.4 Gender Differences and Academic performance

The word gender refers to traits and behaviour that a particular culture judges to be appropriate for men and women while sex refers to biological differences. Men and women are different. Years of research on personality indicates that men on the average are more assertive, active and aggressive in their actions while women are more extroverted, anxious, emotionally sensitive and dependent (Woolfolk, 2006). The common goal of all teachers is to provide equitable learning opportunities for every student (boy or girl) in the classroom. However, research evidence and experience have shown that gender is a significant factor in determining the performance of students in learning tasks. Research findings have been inconclusive as to whether boys (males) achieve higher than girls (females).

Olarinoye, (2015) in her study revealed that the academic performance of both male and female students did not significantly differ when cooperative learning and guided discovery method were used. In addition, Poole (2005) studied gender differences in reading strategy use among ESL college students. The participants consisted of 248 ESL students (110 females' and 138 males) a qualitative survey called the Survey of Reading Strategies or the SORS that contains three kinds of strategies: Global reading strategies (13 items), problems solving strategies (8 items), and support strategies (9 items). The results showed that males and females did not significantly differ in their overall strategy use.

However, Yusuf (2005) in his article "Gender differences and equal opportunities in the ESL classroom" opines that there is evidence from cross-gender conversations between the various possible combinations of Native Speakers (NS) and Non-Native Speakers (NNS) to suggest that men and women tend to use conversation for different purposes. According to him, men take advantage of the conversation in a way that allows them to

promote their performance and production ability, whereas women utilize the conversation to promote their comprehension ability. He submits that the main pedagogical conclusion from this evidence is that ESL/EFL teachers should be equipped with a good syllabus and methodology and should be able to engineer situations that create equal opportunities for both males and females in all aspects of classroom interactions.

2.3 Concepts of jigsaw method

The Jigsaw method was developed by Elliot Aronson in 1971. In the Jigsaw method, students are assigned to multi-member teams to work on academic material that has been divided into sections. Each member of the group is assigned a section of study on which he or she becomes an expert. Experts are then assigned to expert groups in which the members of the group discuss the information and decide on the best way to present the material to members of their home teams. After the students have mastered the material, group members return to their home teams to teach the other members the material (Adams, 2013). Since it is the only way students can learn material other than their own is to listen carefully to their teammates, they are motivated to support and show interest in one another's work.

Jigsaw can be defined as a grouping strategy in which the members of the class are organized into "jigsaw" groups. The students are then reorganized into "expert" groups containing one member from each jigsaw group. The members of the expert groups work together to learn the material or solve the problem, then return to their "jigsaws" groups to share their learning (Amedu, Otuka, and Uzoechi, 2015). In this way, the work of the expert groups is quickly disseminated throughout the class, with each person taking responsibility for sharing a piece of the topics. Jigsaw is an efficient way for students to become engaged in their learning, learn a lot of material quickly, share information with other groups, minimize listening time, and be individually accountable for their learning. Since each group needs its members to do well in order for the whole group to do well, Jigsaw

maximizes interaction and establishes an atmosphere of cooperation and respect for other students. Teachers who listen in to the sharing of one of the jigsaw groups can quickly hear what each of the original groups has been doing.

Kagan and Kagan (2009) said that Jigsaw is an effective strategy to use when you want to increase student's mastery of a topic at a hand, boost their concept development, and enhance targeted discussion among students, and foster group project participation and learning. In this strategy, students are divided into heterogeneous groups each group consists of four-five (4-5) members. In this strategy, the members of each group study the same subject, for example, a chapter in a textbook and each member concentrates on a specific part of the subject. After that, the members of different groups assigned the same part to hold a discussion meeting.

After that, each member joins his original group to explain to them what he has learned from his specific assignment. Finally, each member takes an individual test and all member scores are used to calculate each group's score (Al-Salkhi, 2009).

The Jigsaw method is considered an image of cooperative learning by which students learn through their activities within small groups. Each member specializes in a specific portion of the study subject and then he shares the acquired knowledge with the other members of his group. The design of Jigsaw method has three main stages Albaghdadi, Abu Alhuda, and Kamal, (2005):

A) Planning Stage: This contains three steps

1. Purpose identification: the main purpose of Jigsaw strategy is to acquire the organized knowledge through specialty groups. Also, the necessary behavioral objectives of each study subject need to be identified.
2. Designing study material: the teacher is responsible for preparing the study material and tools such as textbooks, references, articles, charts, drawings, etc.

3. Grouping the students according to their interests, previous experience, and achievement level. However, the group should be heterogeneous to enable low performers to learn from high performers.
4. Designing evaluation tools: the teacher should prepare a test in view of the identified behavioral objectives that cover all study subjects.

B) Implementation stage of Jigsaw strategy that consists of four aspects as seen below.

The main aspects of the implementing stage of jigsaw strategy

Aspect	Description
Grouping of information	<ol style="list-style-type: none"> 1. Distributing students into small groups 2. Distributing subjects to the individual students of each group to assume the role of expert in the assigned unit 3. Studying the subject based on the expert reports.
Meeting Expert	Meeting experts assigned the same unit to discuss its elements and compare notes given by the experts
Team report	In their meeting, experts prepare a report covering the main points of the subject so as to share them with their group members.
Assessment and evaluation	<ol style="list-style-type: none"> 1. Direct the work of the group and develop their concepts. 2. Monitor students activities and get teachers involve in the group work 3. Encourage by using immediate enforcement and feedback

Source: Albaghdadi, Abu Alhuda, and Kamal, (2005)

C) Evaluation stage of Jigsaw cooperative learning method consists of three main levels (Table 2). Three basic levels in the evaluation stage of jigsaw strategy

Process	Description
Group Evaluation	Determining the work progress of groups and students participation in the team work
Evaluation of experience progress	Determining the work progress in the expert group and as a member of his group
Evaluation of material comprehension	Giving students a written exam to determine each student's progress in meeting the learning objective

Sources: Albaghdadi, Abu Alhuda, and Kamal, (2005)

The Jigsaw method is a cooperative learning technique in which students work in small groups. Jigsaw can be used in a variety of ways for a variety of goals, but it is primarily used for the acquisition and presentation of new material, review, or informed debate (Gocer 2010). To become an “expert” In this method, each group member is assigned to become an "expert" on some aspect of a unit of study. After reading about their area of expertise, the experts from different groups meet to discuss their topic, and then return to their groups and take turns teaching their topics to their group mates. This Strategy allows for: An efficient way to learn content (Tran and Lewis, 2012)

How can Jigsaw work?

1. Divide the day's lesson into segments, and form student groups. The groups should be different in terms of ability.
2. Form temporary expert groups in which students are assigned to the same segment. Give students in these expert groups time to discuss the main points of their segment and to rehearse the presentations they will make to their jigsaw group.
3. Then bring the students into jigsaw groups that are composed of one student from each expert group. Have each student present his or her segment to the group. At the end of

the session, you may give a quiz so that students are held accountable for learning all the material.

Steps of Jigsaw

There are seven steps of jigsaw approach according to Harvey and friends, in Digilib, (no date), which include:

1. Divide students into heterogeneous Jigsaw teams of three to five students. Each Jigsaw team member will be responsible for one sub-topic of the content. Provide an organizer that will make the sub-topics clear.
2. Allow students from each Jigsaw team to meet with students from other Jigsaw teams who are responsible for the same sub-topic.
3. Instruct the members of these expert groups to use the provided resources to conduct research on their subtopics. After individual research, expert group members assemble to review, discuss, and determine the most important concepts.
4. Work with expert groups to develop a plan to teach their subtopic back to the Jigsaw team, and have all expert groups draft a set of questions related to their subtopic for use on the test.
5. Reassemble Jigsaw teams. Have experts take turns teaching their sub-topic while the other Jigsaw members record key information on their organizer. Circulate and observe these student-led discussions to ensure key ideas are being covered
6. Lead a discussion or follow-up session covering the entire topic.
7. Develop a quiz or test based on the questions submitted by expert groups. Provide students with two grades—an individual grade and a team grade (found by adding the test scores of all the members of the Jigsaw team). Provide bonus scores to any groups whose sub-topic content was “aced” of the class. To increase the sense of competition, post team scores and provide recognition for high-achieving Jigsaw teams and expert groups.

According to Karacop and Doymus (2013), they stated that teacher's role in the jigsaw is to facilitate learning. When students are in expert groups, the teacher can support students by encouraging them to find ways to put the information they learned into their own words, to relate the material to their own lives, and to give examples that help them explain the material to their group. Students should be encouraged to help each other and to make sure everyone in their group understands the material and will be able to present it to his or her group member.

If a student finds it difficult to explain his or her topic to the jigsaw group, a teacher first might pair that student with a partner who will help research and present the information to the jigsaw group and then have the pair travel together to the expert group and also to the jigsaw group. This will help both students develop interpersonal skills, communication skills, and cooperating skills (Zakariya and Iksan, 2007). To facilitate this partner coaching, have both students to tell you if this is helping them learn the material. Encourage both students to make suggestions that would help them to learn more efficiently. The Jigsaw strategy is fundamental to all kinds of work in small groups. Use it frequently to maximize accountability and interactivity. As students become well-known to sharing their understanding and ideas with others, you will find that they become more responsible learners (Karacop and Doymus, 2013).

Faced with the need to articulate their learning to others, they will master the material at a deeper level than they would otherwise. As you give students more and more complex materials to discuss, master, and present to their peers, you will be providing them with opportunities to expand their thinking and understanding. You can increase accountability by giving individual students a quiz on the material after the jigsaw sharing is complete (Tran and Lewis, 2012).

There are several benefits of jigsaw technique in teaching. The teacher is not the sole provider of knowledge because most of the work is done by the students themselves which make it an efficient way to learn. Students take ownership in the work and achievement and therefore students are held accountable among their peers. Jigsaw technique is beneficial in teaching because learning revolves around interaction with peers; students are active participants in the learning process and thereby help to build interpersonal and interactive skills among students (Doymus, 2008). The use of this technique also makes teachers find it easy to learn and enjoy working with it. It can be used in conjunction with other teaching strategies and it can be effective even if it is used for just an hour per day. There can be some obstacles when using the jigsaw technique. One common problem is a dominant student. In order to reduce this problem, each jigsaw group has an appointed leader. Students realize that the group is more effective if each student is allowed to present his or her own material before questions and comments are made (Adams, 2013).

However, in the application of Jigsaw technique, students separate from their own groups and form new groups with the other students who are responsible for preparing the same subjects. These groups, called “groups of experts” try to make other students understand the subjects, they make plans about how they can teach the subject to their friends, and prepare a report. Afterward, they turn to their own groups and teach their subjects to them with the help of the reports they have prepared. In the last stage, stage of completing, teachers can perform some activities with individuals, small groups or the whole class in order to unify students’ learning. For instance, she/he can make one of the home groups or individual students make presentations in the classroom on their subjects. In the evaluation stage, the study is completed by making the evaluation proposed by the cooperative learning method (Sahin, 2010).

2.4 Concepts of Think-Pair-Share Method

Think-Pair-Share is a cooperative discussion strategy developed by Frank Lyman and his colleagues in 1978 in Maryland. It gets its name from the three stages of student action, with emphasis on what students are to be DOING at each of those stages. (1) Think. The teacher provokes students' thinking with a question or prompt or observation. The students should take a few moments (probably not minutes) just to THINK about the question. (2) Pair. Using designated partners, nearby neighbors, or a desk mate, students PAIR up to talk about the answer each came up with. They compare their mental or written notes and identify the answers they think are best, most convincing, or most unique. (3) Share. After students talk in pairs for a few moments, the teacher calls for pairs to SHARE their thinking with the rest of the class (www.sciencedirect.com). They can do this by going around in round-robin fashion, calling on each pair, or they can take answers as they are called out (or as hands are raised).

Often, the teacher or a designated helper will record these responses on the board, an example is learning task: The teacher will provide a worded problem involving an area. Think: The teacher will allow the students to individually solve the problem first. Pair: After 5 minutes, the teacher will ask the students to find a partner and discuss their solutions to each other. They should come up with a single solution for the given problem. While partners are discussing their solutions, the teacher will roam around to see which partnered students were able to make it correctly and which are not. Share: The teacher will randomly select a partner to share their solutions to the class by explaining it in front and solving it using the blackboard.

According to Bamiro (2015), Think-pair-share is a cooperative learning strategy that includes three components, namely, time for thinking, time for sharing with a partner, and time to share among pairs to a larger group. The use of the strategy unites the cognitive and social aspects of learning, promoting the development of thinking and the construction of

knowledge. The think-pair-share strategy has many advantages over the traditional questioning structure. The “think time” incorporates the important concept of “wait time.” It allows all children to develop answers, longer and more elaborate answers can be given, and answers will have reasons and justifications because they have been thought about and discussed. Students are more willing to take risks and suggest ideas because they have already “tested” them with their partner.

Think-pair-share: After posing a question (particularly a complex one), give students five minutes to think about it, perhaps even jot down some notes, after which you have them partner up for a quick discussion about what they think and why. After giving ample time for discussion, ask partners to share their insights with the entire class. This strategy is helpful in engaging students in a more meaningful way. Think-pair-share provides time to think about the answer to a question or problem and time to discuss it with a group, before proposing an answer or solution to the entire class (PhiriKeins, 2004). Regardless of whether the result ends up being shared in the larger class discussion, the process often leads to more thorough, deeper thinking on the part of each student.

According to Magre and Joshi (2013), Think-Pair-Share is a method that allows students to engage in individual and small-group thinking before they are asked to answer questions in front of the whole class. There are four steps to this method. The first step is a group of four students listens to a question posed by the teacher. Secondly, individual students are given time to think and then write their responses. Thirdly, pairs of students read and discuss their responses. Finally, a few students are called upon by the teacher to share their thoughts and ideas with the whole class. Three-Step Interview It is a strategy that is effective when students are solving problems. Three problem-solving steps are involved in this process.

In step one, the teacher presents an issue about which varying opinions exist and poses several questions for the class to address. Step two, the students, in pairs becomes the interviewer and the interviewee. Step three, after the first interview has been completed, the students' roles are switched. After each student has turned, the pairs read their interviews to the class. After all, interviews have been done, the class writes a summary report of the interview results.

Think-pair-share essentially increases wait time after students are posed with a question or task (Johnson and Johnson, 2002). This allows more time for students to think, and has been shown to get more students involved in the discussion and improve the quality of student responses (Rowe, 2000). Think-pair-share is also very useful to teachers because it can be used as a valuable form of formative assessment (Cooper and Robinson, 2000).

In order for meaningful learning to occur, students must interpret, relate, and incorporate new information with students' existing knowledge and experiences (Cortright, Collins and Dicarlo, 2005). Students must actively process information in order to learn (Lujan and Dicarlo, 2006). Students often have difficulty in asking their problems for certain topics to teacher in learning process. They will easier to ask their problems to their friend by using their own language so that they can understand and help one other. The think-pair-share technique is probably the best-known and the most widely used for cooperative learning structure (Kitaoka, 2013). In a think-pair-share activity, each student is asked individually to consider a problem first then students discuss the problem in pairs. Finally, each group develops a single answer to the problem mentioned.

Steps of think-pair-share

According to Richard in Digilib (no date) stated that Think-pair-share (TPS) consists of three steps, these are:

Step 1-Thinking

The teacher poses a question or an issue associated with the lesson and asks students to spend a few minutes thinking alone about the answer or the issue. Student needs to be taught that talking is not part of thinking time.

Step 2-Pairing

Students are asked to pair with another student and discuss what they have been thinking about. Interaction during this period can be sharing of answers if a question has been posed or sharing of ideas if a specific issue is identified. Usually, four or five minutes are normally allocated for this step.

Step 3- Sharing

In the final step, the teacher asks the pair to share what they have been talking about with the whole class. It is effective to simply go around the room pair to pair and continue until about a fourth or a half of the pairs have had a chance to report.

Bataineh (2015) stated that where students think of an answer to a question, share their answer with a partner, and then that pair shares with another pair. Finally, the foursome creates an answer that represents the consensus of their group to the whole class. This activity may take fewer than 15 minutes. Think-pair-share is a cooperative learning technique which involves presenting students with a task or question and giving them time to think by individually. Then in pairs, they report their individual findings, discuss their own thoughts and then refine their individual work if they see fit in order to come up with a consensus on the question or task. Then after pairs they have time to discuss, the class reconvenes and members of the different pairs share their thoughts with the class.

However, Ukwungwu, (2000) observed that think-pair-share helps to improve class discussions more than any other technique he incorporated into his teaching. He noticed that this technique, by first allowing students time to think individually, it increases individual accountability and personal responsibility for learning and participation in class

compared to starting out in a group, which is one of the vital aspects of successful cooperative learning. He also noticed that students were more willing to share ideas with the whole class when the responsibility for the response is shared among the partner.

According to Kitaoka, (2013) stated that the think-pair-share encourages;

1. Positive interdependence: the students are able to learn from each other.
2. Individual accountability: students are accountable to each other for sharing ideas. The students may also be required to share their partners' idea to another pair or the whole group.
3. Equal participation: each student within the group has an equal opportunity to share. It is possible that one student may try to dominate. The teacher can check this does not happen in any other groups.
4. Simultaneous interaction: a high degree of interaction. At any moment all of the students will be actively engaged in purposeful speaking and listening. Compare this with the usual practice of teacher questioning whereby only one or two students would be actively engaged.

2.5 Conventional Teaching Methods

Conventional teaching or the traditional teaching methods are the ordinary teaching methods used by teachers to deliver the contents of the syllabus to the learners (Macharia, Githua and Mboroki, 2009). Most conventional methods of teaching accounting are teacher-centred. The teacher demonstrates and summarizes the main points and there is surface learning of concepts, principles, and skills (Mchano, 2013). These methods are highly dependent on the skills of the teacher and not useful in enhancing learners interpersonal and communication skills. (Macharia, Githua and Mboroki, 2009). Teachers need to help students develop the skills they will use every day to solve accounting problems which include the ability to reason, explain and justify ideas. The teacher should also help students to use resources to find needed

information to work with other people on a problem to generalize and to differentiate situations as well as the traditional ability to carry out computations. Mbacho, (2013) describe the accounting teachers goal as helping all students to feel that accounting is personally helpful and meaningful and to feel confident that he or she can understand and apply accounting in life.

Traditional teacher-centred teaching like drilling, individual worksheet practice, lecturing, and flashcards are considered effective depending on the traditional definition of accounting as a merely collection of formulae, rules and procedures that must be memorized and mastered. However, the current definition emphasizes that accounting integrated as a whole is the study of structures and the relationships between things and a way to study and understand the world around us (Mbacho, 2013). Conventional teaching methods used in teaching accounting increases students anxiety and negative attitude towards the subject.

2.6 Concepts of teaching and learning

Muraya, and Kimamo, (2011) define teaching and learning as an attempt to help someone acquire or change some knowledge, skill or attitude. They further define teaching and learning as a process where one person, the teacher intentionally passes information to another person, the learner. Therefore, the goal of teaching is to bring about desirable learning in students. In this process, the learner is expected to receive information, understand it and use it later when the need arises. For effective teaching and learning to occur, the teacher must use an effective approach to conveying the information to the learner (Muraya and Kimamo, 2011). He further notes that the way a teacher teaches is important with the right methods and techniques. Students can grasp concepts and ideas while poor methods and techniques frustrate students and minimize their chances of success. It emerges from the foregoing discussion that for effective teaching and learning

the strategies adopted by a teacher is paramount and teachers should, therefore, have a choice of effective teaching and learning strategies for effective learning to occur.

Arends in Murayo and Kimamo (2011) notes that many teaching and learning strategies have been created and studied by educational researchers, classroom teachers, psychologists, industrial trainers, and philosophers. He further notes that a teaching and learning approach has four defining attributes: a coherent theoretical rationale made explicit by its creators or developers, a point of view about what and how students learn, specific teaching behaviors that make the approach to work and required classroom structures for bringing about intended outcomes. Arising out of this, teaching and learning approaches are classified according to their instructional goals, their syntaxes (sequential patterns) and the nature of their learning environments. He further notes that teaching and learning strategies syntax refers to the overall flow or sequence of steps that a lesson usually follows and it specifies what kinds of teacher and student actions are required, the order in which these actions normally occur, and the particular task demands placed on students.

Each teaching and learning approach employs different learning environment and management system and places different demands on the learner, on the physical space, and on the classroom social system. He further classifies teaching and learning strategies into four types: direct instruction, problem-based instruction, cooperative learning, and discussion. Direct instruction is based on ideas from behavioral psychology and social learning theory. It is designed to promote student learning of well-structured procedural and declarative knowledge that can be taught in a step-by-step fashion and requires a tightly structured learning environment.

Problem-based instruction is based on cognitive psychology and constructivist perspectives about learning and is an effective approach for teaching higher-level thinking processes and helping students construct their own knowledge about the social and physical world around them. Discussion as teaching and learning strategies cuts across the other

teaching strategies and therefore it is used in conjunction with another teaching and learning strategy. For example, a discussion can occur in small groups during cooperative learning or between a teacher and students during a problem-based lesson. Cooperative learning strategies have its foundation on social constructivist perspectives of learning.

In this strategy, the classroom environment is characterized by cooperative tasks and incentive structures and by small group activity. It can be used to teach complex academic materials and can help teachers accomplish important social learning and human relation goals. It is, therefore, possible to distinguish and select different teaching and learning strategies that are appropriate for attaining particular objectives in a teaching and learning situation. Teaching and learning strategies that are student-centered promote more learning and that learning is more likely to be effective where a student plays a proactive role in the learning process (Muraya, and Kimamo, 2011).

2.7 Review of Empirical Study

The study regarding student's academic performance have been usually conducted by quite a number of researchers among whom are:

Uwameiye and Ogunbameru (2005) investigated the effects of the conventional methods of teaching vis-à-vis the effects of an alternative method of teaching (guided discovery method of teaching) on students' performance in financial accounting. The research was carried out using quasi-experimental design; population for the study comprised of all twenty-two (22) Senior Secondary School Two (SS2) Financial Accounting students with the population of 820 students in Okitipupa Local Government Education Area of Ondo State, Nigeria. Purposive sampling technique was adopted and used to select schools for the study. Chosen schools were randomly assigned to experimental and control groups while students in the sample schools remained in their intact classes. The study employed Instructional Package for Financial Accounting (IPFA) and Financial Accounting Achievement Test (FAAT) as an instrument for data collection

which was of two parts, that is pre-test and post-test items. Findings of the study indicated that there are differences in the pre-test and a post-test mean performance score of students in control and experimental groups, and mean performance score of students taught with guided discovery method and those taught with conventional methods in Financial Accounting achievement post-test scores.

In other words, the effectiveness of the instructional methods employed in the classroom can be evaluated based on the obtained mean achievement score of the group. Also, the different treatment given to the experimental and control groups affected positive changes on the students mean achievement scores in the post-test financial achievement test. The study also showed no difference in the mean performance scores of male and female students taught with guided discovery and conventional method of teaching respectively.

The present study is similar to the past study in the following areas: Both of them employed quasi-experimental research of pre-test and post-test. The present study and the past study are all targeted on academic performance in accounting. The present study differs from the past research study in the following areas: the target population and the sample size, the past research targeted secondary school students while this present study is targeted colleges of education students. The present study was conducted in the Northeastern state while the past research study was conducted in the south-western state. The past research study used Instructional Package for Financial Accounting (IPFA) and Financial Accounting Achievement Test (FAAT) as an instrument for data collection while the present study used Principles of Accounting Achievement Test (PAAT) as an instrument for data collection. The past research study contributed to the success of the present study in the literature review, research design and methodology, it did not indicate the method used in the pilot study while this present study employed test-retest method.

Umar (2010) conducted a research study titled: Comparative analysis of exposition and inquiry methods of teaching and learning financial accounting in senior secondary schools in Kaduna State. The researcher collected data from a sample of forty-two (42) students, out of a total population of one hundred and eighty-seven (187) students. The researcher answered four (4) questions and also tested four (4) null hypotheses. Descriptive statistics, frequency counts, means, and percentages were used to answer the research questions, while T-test and Z-test were used to test the four (4) null hypotheses at 0.05 level of significance. The researcher used pre-test and post-test approach, the researcher determined whether there was any significant difference in the mean achievement of the experimental group and that of the control group. Also, the researcher investigated the difference in the performance of male and female students in both experimental and control group.

The result showed that the students in both groups performed better in the pre-test and post-test. Also, there were significant differences between the pre-test and post-test mean performance of the students in financial accounting. The difference between this present study and the past research study is that this present study was delimited to colleges of education in Northeast, Principles of Accounts NCE 1, with four (4) research questions and four (4) null hypotheses while past study was delimited to secondary school in Kaduna state, north-west, the present study use total population of 900 and 120 as samples for the study while the past research study used 187 secondary school students as population and 42 as samples for the study. There are similarities between this present study and the past research because both employed pre-test and post-test experimental groups and both of them used teaching methods and adopted the quasi-experimental design for the study. The past research study contributed to the progress of ongoing research work in research design and methodology and procedure for data collection of the study.

Ibrahim (2011) conducted a research on the impact of accounting background, gender and motivation on the performance of business education students in introductory accounting in federal universities in Nigeria. The study employed quasi-experimental research design, the 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, University of Benin, Benin-city, Edo State and the University of Nigeria, Nsukka, Enugu state were used as samples for the study. The study utilized Financial Accounting Achievement Test (FAAT) as an 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 analyze 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 have any positive impact on students' performance. Based on research findings, five recommendations were made, one of which is that student's wrong perception of accounting as a difficult subject should be discouraged by teachers, guidance and counselors and parents.

The present study is similar to the past research study as both of them are working toward students academic performance, both of them are quasi-experimental research. However, the present study differs from the study being reviewed in that; the instrument for data collection, the present study employed Principles of Accounting Achievement Test (PAAT) while the past research study adopted Financial Accounting Achievement Test (FAAT), the population of present study comprised of NCE ONE (1) business education students both males and females from six (6) Colleges of Education in Northeast, Zone. While the target population for the past study under review was 100 level business education students offering business education from eight (8) federal universities in Nigeria. Also the present study employed quasi-experimental design in College of

Education in northeast while the past research study used three tertiary institutions. However, the past research did not indicate the sampling procedure in selecting the three universities from the eight (8) universities offering business education.

The findings of the past study guided the researcher in carrying out the field experimental work and review of the literature and in the methodology adopted for the study.

Amedu, Otuka, and Uzoechi, (2015) conducted a research on Effect of Jigsaw Cooperative Learning Approach on Biology Students Achievement and Conceptual Change in Secondary School Students in Nasarawa state. The major objective of the study was to determine the effect of jigsaw cooperative learning approach on biology students' achievement, conceptual change, and attitude. Based on the major objectives, two (2) specific objectives were formulated and in line with specific objectives two (2) research questions and two (2), null hypotheses were postulated. The research design adopted was quasi-experimental design. The sample was 419 of SS I students from three (3) secondary schools in Nasarawa state. The instruments for data collection were Microorganism Achievement Test (MOAT) and Microorganism Diagnostic Test (MODT).

The split-half method was used in testing the reliability coefficient of the items and the reliability coefficient was 0.98. One-way analysis of variance (ANOVA) was used in testing the null hypotheses. All hypotheses were tested at 0.05 level of significance. The result of the finding showed that experimental group taught using the jigsaw method performed significantly better than their counterpart in the control group taught using the conventional method of teaching.

The present study is similar to the past study in the following areas. The research design for both studies is quasi-experimental design, the variables for both studies used jigsaw method, both studies focused on academic performance. However, the present study differs in the following areas: the location for the present study is Northeastern state while

the location for the past study was a North-central state; the present study focused on colleges of education students while the past study focused on secondary school students. The sample size for this present study is 120 intact class of NCE I college of education students while the past study was 419 secondary school students. The present study used t-test and regression analysis, while past study used analysis of variance (ANOVA), the past study used split-half method for reliability while the present study used test-retest method.

The findings of the past study guided the present study in selecting research design, methodology, and instrument for data collection and procedure for data analysis. The present study compared two approaches of cooperative learning method which the past research works failed to do.

Bamiro (2015) investigate the effects of guided-discovery and think-pair-share strategies on secondary school students' achievement in chemistry in Ogun state Nigeria. The study employed the quasi-experimental design and the entire SS I science students in public school constitute the population of the study. The researcher administered a pre-test to the students in order to ascertain the entry level of the subjects. After treatment, a post-test was administered to the students in order to ascertain the effects of the treatment.

The purpose of the study was to find out the effects of guided discovery and think-pair-share strategy actually, affects students' achievement in chemistry with a view to recommending a better opinion. Three hypotheses were formulated and tested at 0.05 level of significance. The researcher collected the sample of two hundred and forty two (242) students from six senior secondary schools in two local government areas which are, Ojebu Ode and Odogbulo local government areas of Ogun state. In selecting the sample simple random sampling was used to select six schools from the total population of the study.

The researcher analyzed the data generated using an inferential statistic for answering research questions. Analysis of covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance, the result showed that there was a significant

difference between the pair of students exposed to the guided discovery and lecture strategies and think-pair-share and lecture strategies in the mean score of chemistry. The finding of the study revealed the effectiveness of guided discovery and think-pair-share strategies over lecture strategy in enhancing students' achievement in chemistry.

In line with the findings, the researcher recommended among others that guided discovery and think-pair-share strategies should be adopted for instruction in secondary schools in order to improve students' achievement.

The present study is similar to the past study in the following areas. The research design for both studies is quasi-experimental design, both studies focused on academic performance. However, the present study differs in the following areas: the location for the present study is Northeastern state while the location for the past study is South-West state; the present study focused on colleges of education students while the past study focused on secondary school students. The sample size for this present study is 120 intact class of N.C.E. I college of education students while the past study was 242 secondary school students. The present study uses t-test and regression analysis, while past study used analysis of covariance (ANCOVA), the past study used split-half method for reliability while the present study uses test-retest method. The past research study contributed to the progress of presents study in selecting literature, research design and methodology for the study.

Bataineh, (2015) conducted research titled the effects of think-pair-share, cooperative and traditional learning strategies on undergraduate academic performance in educational psychology in King Saud University, Saudi Arabia. The researcher employed five (5) hypotheses for the study; the study also employed a quasi-experimental design. The instrument named Educational Psychology Performance Test (EPPT) was used for data collection, the population of the study consisted of undergraduate students from three classes, who study the educational psychology course in second semester 2014/2015, and

seventy (70) students were used as sample size. The data collected were analyzed using analysis of variance (ANOVA) at 0.05 level of significant. The major findings of the study indicated that think-pair-share, co op-co op strategies was more effective and better than the traditional learning strategies in teaching psychology. The finding revealed that students' performance was better enhanced when students were taught using think-pair-share and cooperative learning strategies. Based on the findings the researcher concluded that the think-pair share and cooperative learning strategies were more effective than traditional learning strategies. The researcher recommended the use of think-pair share and cooperative learning strategies in teaching and learning of psychology of education than traditional learning strategy.

The present study is similar to the past study in the following areas. The research design for both studies was quasi-experimental design, the variables for both studies used teaching method, both studies focused on academic performance. However, the present study differs in the following areas: the location for the present study is Northeastern state while the location for the past study was Saudi Arabia; the present study focuses on colleges of education students while the past study focused on university students. The sample size for this present study is 120 students of NCE I college of education students while the past study was 70 male undergraduate students. The present study uses t-test and regression analysis, while past study used analysis of variance (ANOVA) and t-test, the past study used split-half method for reliability while the present study used test-retest method. the past research study will contribute to the progress of present study in selecting literature review, research design and methodology of the study.

Moradeyo, (2015) conducted research titled, the effects of guided-discovery method and gender on students' performance in Accounting in colleges of education in the south-west geo-political zone, Nigeria. The researcher answered four (4) research questions, the researcher tested four (4) null hypotheses; the study adopted quasi-experimental design.

The study used Instructional package for Principles of Accounting (IPPA) and Principles of Accounting Achievement Test (PAAT) as instruments for data collection. The total population of the study stood at one thousand seven hundred and sixty-four (1764) and three hundred and twenty (20) were used as sample size. The data collected were analyzed using Pearson product Moment Correlation and t-test at 0.05 level of significant. The major findings of the study showed that guided-discovery was effective on business education student's performance in Principle of Accounting. The finding also revealed that guided discovery had positive effects on business education students' performance in Principles of Accounting at Colleges of Education especially the introductory level. Based on the findings, the researcher concluded that the guided discovery method is more effective in teaching Principles of Accounting.

The present research study is similar to the previous research study on these areas: research design, an instrument for data collection that is pre-test and post-test and the scope of the study (Colleges of Education), numbers of research questions, null hypotheses, subject area (Principles of Accounting). The difference between a current research study and the past research study is in the: variables of the study, statistical tools for testing null hypotheses and answers to the research question, the area of study the past research study was in southwest while the presents study was in the Northeast zone. The past research study contributed to the progress of the ongoing research work in research design and methodology. But the past research study did not indicate the method used in the pilot study while the present study used test-retest method for reliability.

Olarinoye, (2015) investigated the comparative effect of cooperative and guided discovery methods on secondary school student's achievement in accounting in Plateau State, Nigeria. The main objective of the study was to compare whether cooperative and guided discovery methods were conducive for teaching and learning of accounting on secondary school students. Four (4) specific objectives were raised in line with four (4)

research questions and four (4) null hypotheses. The researcher collected the sample of sixty (60) students, who were randomly selected from a total population of one thousand five hundred and forty (1540) students.

The researcher analyzed the data generated using means and standard deviation. Analysis of variance (ANOVA), t-test tested the null hypotheses at 0.05 level of significance and it showed that there is no significant difference in the academic achievement scores of students from urban and rural schools taught with the cooperative and guided discovery methods of teaching. The result showed that students in urban schools tend to achieve more academically when exposed to cooperative learning and guided discovery method than their counterparts in rural schools. However, the result showed that guided discovery method enhances achievement significantly than cooperative learning method.

The present research study is similar to the past research study in these areas: the number of independent variables and the research design as both of them used quasi-experimental design. The differences between present and the past research is that: the scope of the study, statistical tools for testing the hypotheses, difference in subject the instrument for data collection as present study used Principles of Accounting Achievement Test (PAAT) while the past research study used Financial Accounting Achievement Test (FAAT) as instrument and the number of sample of the study and population for the study. The past research study contributes to the progress of ongoing research work in research design and methodology of the study. But the past study did not indicate the method of selecting sample size.

2.8 Summary of Reviewed Literatures

This study reviewed the literature on the effects of the jigsaw and think-pair-share methods on students' academic performance in accounting in colleges of education in the north east, Nigeria. The chapter started by clarifying the theoretical framework upon which

this study was based. The theory upon which this research study is based on the Social constructivism theory developed by post-revolutionary Soviet psychologist Lev vygotsky (1978). Several kinds of literature related to this study were reviewed and that was done in an orderly manner. The concepts of accounting from different authors were reviewed.

Jigsaw and think-pair-share method was useful in promoting reasoning, skills, and understanding of students in a subject. Classroom interactions provided students with the opportunities to assist each other's learning, actively participate in learning activities, increase their critical thinking, problem-solving skills, and decrease absenteeism. Students who experience jigsaw and think-pair-share feel free in asking questions or participate in group discussion with their class members. The works done by other researchers were reviewed, and none of these studies sufficiently compared the effectiveness of jigsaw and think-pair-share method. Specifically, none of the studies focused on the contributions of Jigsaw and think-pair-share method on the performance of colleges of education students in accounting.

Despite the fact that much has been written about the effects of the jigsaw and think-pair-share methods in a tertiary institution in Nigeria, literature search showed that none of the researchers focused on the effects of jigsaw and think-pair-share method on student's academic performance in Principles of Accounts in colleges of education in the north east. Therefore, this study has filled this missing gap.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter presented the various procedures that were used for collecting and analyzing the data. These are:-

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

3.1 Research design

The researcher employed quasi-experimental design; this is because the study utilized “a pretest/posttest non-equivalent comparison group design” (McMillan and Schumacher 2006). Quasi-experimental design is a design in which participants are not randomly assigned to the groups.

3.2 Population of the study

The population of the study comprised of nine hundred (900) NCE 1 business education students offering Principles of Accounts in the 2015/2016 academic session in the six Colleges of education in North Eastern states. The distribution of the population is shown in Table 1.

Table 1: Population of the Study

Names of colleges	Students		
	Male		Female
Total			
College of Education, Azare	90	70	160
Federal College of Education (Technical), Gombe	93	27	120
Federal College of Education (Technical), Potiskum	102	43	145
Federal College of Education, Yola	73	52	125
Kashim Ibrahim College of Education, Maiduguri	105	85	190
Umar Suleiman college of education, Gashu-a	90	70	160
Total	553	347	900

Source: Academic Planning unit of colleges of education, 2016

3.3 Sample Size and Sampling Procedure

The sample size was 120 NCE I male and female Business Education student in Federal College of Education (Technical), Gombe State, Nigeria. The sample size comprised of 93 males and 27 females NCE I students. The breakdown of the sample size is presented in Table 2

Table 2: Sample Size

Treatment Groups	Male	Female	Total
Jigsaw method (Experimental I)	47	13	60
Think-Pair Share method (Experimental II)	46	14	60
Total	93	27	120

Simple random sampling was used to select federal college of education (Technical) Gombe state. The proportional Sampling method was used to group the students into 60 per groups. In selecting the sixty (60) students, the researcher wrote 47

(JM) and 46 (TPS) for male students; and 13 (JM) and 14 (TPS) for female students on pieces of paper and asked students to pick one each. Those who picked (JM) formed the sample size of jigsaw method and those picked (TPS) formed the sample size of think-pair-share method. The researcher shook the container and placed on the table for selection by students. The two classes were intact groups in the sample school.

3.4 Instrument for Data Collection

The instrument used for data collection in this study is Principles of Accounting Achievement Test (PAAT). The instrument for data collection was divided into two parts, the pre-test, and the post-test. The pre-test instrument contained twenty (20) items multiple choice objective questions with four (4) options A-D each, which was centered on the subsidiary book, principles of double entry and cash book, it lasted for one hour (see appendix II). The marking scheme of pre-test (appendix III) was used to mark the pre-test. The second part of the instrument post-test (appendix IV). The instrument was administered in order to collect data after teaching the students with different methods. This instrument was administered to determine the effects of the selected methods of teaching.

This instrument is prepared based on the table of the specification that was developed using the Final Accounts up to Balance Sheet of a Sole Trader without adjustment. The researcher designed a lesson plan toward effective teaching and to see the effects of the jigsaw and think-pair-share method on students' academic performance. (See appendices VI to XII for details)

3.4.1 Validation of the Instrument

Principles of Accounting Achievement Test (PAAT), was scrutinized and vetted by researcher's supervisor and research experts of not below the rank of a senior lecturer from the department of psychology and counseling, faculty of education, Ahmadu Bello

University, Zaria. It suggested modification on the test items were affected before the test was administered to students in the selected College of Education. This agrees with the views of Hanger and Becker (2005) who stressed the need and significance of establishing the validity of research instrument by a panel of experts to determine if its items (contents) can obtain the desired data they are intended to obtain. This, in essence, was to ensure its content validity and also to ensure that necessary adjustment was made thereafter.

3.4.2 Pilot Testing

In order to establish the reliability of the Principles of Accounts Achievement Test (PAAT), a pilot testing was conducted using forty (20) students of NCE 1 Business Education, at Federal College of Education, Zaria. Both pre-test and a post-test component of the instrument were administered to NCE 1 Business Education Students. This is because the college had a set of Business Education Programme which was in line with researcher target population and also the institution was outside the Northeast States covered by the study but they shared similar characteristics with that of the study area. The data collected were subjected to a statistical test to determine coefficient correlation.

3.4.3 Reliability of the instrument

Test and re-test method was used in testing the test items for the reliability coefficient. The data obtained from the pilot testing was subjected to statistical analysis using Pearson Product Moment Correlation Coefficient. The reliability coefficient was 0.88 which showed that the instrument was valid and reliable. This in line with Alphonsus (2012) who stated that reliability coefficient of 0.50 and above is valid and reliable.

3.5 Procedure for data collection

The researcher collected a letter of introduction as in (Appendix A) from the department of vocational and technical education, Ahmadu Bello University, Zaria. This was used to introduce the researcher to the authority of the selected College of Education. Upon introduction, the researcher grouped the students into two (2) heterogeneous groups that is jigsaw method group (Experimental I) and think-pair-share method group (Experimental II). Each group consists of 60 students as intact class. For each group, one hour of week one was used for introduction and establishment of good rapport between the researcher and the students. The pre-test was administered for the last hour of the week; all students in both groups were subjected to pre-test.

For each group, a double period of week two was used to teach the students trading account and its terminologies and how to prepare Trading Account of a Sole Trader. While the double periods of week three were used to teach the students how to prepare Profit and Loss Account and its terminologies. Lastly, double period of week four was used to teach Concepts of Balance Sheet. Lesson plans were prepared for the actual periods that were used in the teaching (See appendices VI to XII). At the end of the treatment (five weeks), a post-test (Appendix IV) was administered to experimental groups. In order to avoid cheating during the test, the researcher employed the services of staff members in the Department that assisted in the invigilation and collection of scripts. The answer scripts were scored 100 marks as stated in the marking scheme (Appendix V). The test result of each test for the experimental groups was collected separately and was subjected to statistical analysis. The data collection period lasted for five (5) weeks comprising double periods lasted for two (2) hours per week were used on each of the two (2) groups.

3.6 Procedure for data analysis

In analyzing the data collected, the mean and standard deviation was used to answer all research questions. The null hypotheses one and two were tested using regression analysis. This decision was based on the opinion of Anthony (2006) who opined that Regression analysis should be employed to determine the relationship between dependent variable on independent variable if the variables are categorical. While null hypotheses three, four and five were tested using t-test. A t-test was considered appropriate for analyzing the difference between the mean of two groups variable. (Ibrahim, 2013)

Decision rule

The decision rule for the research question is that the pass mark was 50%. A mean score of 50% and above is regarded as pass and a mean score below 50% is termed as fail. The null hypothesis is rejected if calculated value is greater than alpha value and it was accepted if the calculated value is less than the alpha value.

CHAPTER FOUR

This chapter presents the data based on field work. The analysis was done under the following headings:-

4.1 Demographic Data of the Respondents

4.2 Answering the Research Questions

4.3 Testing the Null Hypotheses

4.4 Summary of the Major Findings

4.5 Discussions of the Major Findings

4.1 Demographic Data of the Respondents

4.1.1 Analysis of the bio-data of the respondents by group is as presented in Table 3

Table 3 Analysis of Respondents by Group

Group	Frequency	%
Jigsaw Method	60	50
Think-pair-share Method	60	50
Total	120	100

Source: Field Work, 2016

The analysis of respondents by group methods presented in table 3 indicated that sixty (60) students representing 50% were in Jigsaw and Think-pair-share methods respectively. The implication is that the two groups were equally represented with an equal number of students.

4.1.2 Analysis of respondents by gender group is as presented in Table 4

Table 4 Analysis of Respondents by Gender

Group	Frequency		%	
	Male	Female	Male	Female
Jigsaw method	47	13	51	48
Think-pair-share method	46	14	49	52
Total	93	27	100	100

Source: Field Work, 2016

The analysis of respondents by gender presented in Table 4 indicated that forty seven (47) male students representing 51% were for Jigsaw method and forty six (46) male students representing 49% were for Think-pair-share method respectively. While thirteen (13) female students representing 48% were for Jigsaw method, and fourteen (14) female students representing 52% for think-pair-share method.

4.2 Answers to Research Questions

Research Question One: *What is the effect of jigsaw method on the academic performance of business education students in principle of accounts in colleges of education in Northeast, Nigeria?*

To answer research question one, the post-test scores of students exposed to jigsaw method were used. The analysis of data generated is presented in table 5

Table 5 Mean and standard deviation of effect of Jigsaw Method on Performance of Business education students in Principles of Accounts

Jigsaw method	N	DF	X	SD	Mean Diff.
Post-test	60		59.53	11.51	
		58			5.93
Pre-test	60		53.60	10.15	

Source: Field Work, 2016

The results of table 5 showed the effect of Jigsaw method on the performance of business education students in Principles of Accounts in colleges of education in the north east, Nigeria. The analysis revealed the cumulative score of 3572 for 60 students with a mean score of 59.53% and standard deviation of 11.51. The summary of the result showed that, jigsaw method has an effect on students' academic performance in Principles of Accounts. This means that, Jigsaw method affects students' academic performance in Principles of Accounts. Therefore, Jigsaw method is effective in teaching Principles of Accounts. But the test of null hypothesis one will indicate whether or not Jigsaw method has significance effect on students' performance statistically.

Research Question Two: *What is the effect of think-pair-share method on the academic performance of business education students in principle of accounts in colleges of education in Northeast, Nigeria?*

To answer research question two, data collected were analyzed using mean and standard deviation as presented in Table 6.

Table 6 Mean and standard deviation of effect of Think-pair-share method on the performance of Business education students in Principles of Accounts

Think-pair-share	N	DF	X	SD	Mean Diff.
Post-test	60		56.37	11.15	
		58			2.39
Pre-test	60		53.98	10.44	

Source: Field Work, 2016

The results of table 6 showed the effect of think-pair-share method on the academic performance of business education students in Principles of Accounts in colleges of education in the north east, Nigeria. The analysis revealed the cumulative score of 3382 for 60 students with a mean score of 56.37% and standard deviation of 11.37. The summary of the result showed that, think-pair-share method has an effect on students' academic performance in Principles of Accounts. This means that, think-pair-share method affects students' academic performance in Principles of Accounts. But the test of null hypothesis two will indicate whether or not think-pair-share method has significance effect on students' performance statistically.

Research Question three: *What is the differential effect between the academic performance of business education students taught using jigsaw method and those taught using think-pair-share method in Principles of Accounts in colleges of education in Northeast, Nigeria?*

In order to answer research question, three on the performance of students taught using a jigsaw and think-pair-share method the data collected was analyzed using mean and standard deviation. Analysis of data used to answer research question three is presented in Table 7.

Table 7: Analysis of difference in the mean performance of Students taught principles of account using Jigsaw method and those taught using think-pair-share method

Method	N	Total	Mean	SD	Xdiff.
jigsaw	60	3572	59.53	11.51	
Think-pair-share	60	3382	56.37	11.51	3.17
	120	6954	57.95		

Field work, 2016

Table 7 revealed that the performance of students taught Principles of Accounts using jigsaw teaching method performed better than those who were exposed to think-pair-share method with a mean score of 59.53% with standard deviation 11.51 against 56.37% with standard deviation of 11.51 with mean different of 3.17%. From the data presented, it shows that jigsaw method affected students' performance better than think-pair-share method. This implied that jigsaw method is more effective.

Research Question Four: *What is the difference in the academic performances of male and female students in Principles of Accounts taught using jigsaw method in colleges of education in Northeast, Nigeria?*

To address research question four, the data collected were analyzed using mean score as presented in Table 8

Table 8: Analysis of difference in the mean performance of male and female taught Principles of Accounts using jigsaw method

Jigsaw	N	Total	Mean	SD	Mean Diff
Male	47	2809	59.77	10.87	
Female	13	785	60.38	15.22	0.61
	60	3572	59.53	11.51	

Field work, 2016

Table 8 showed the difference between the academic performance of male and female students exposed to jigsaw method. The analysis revealed that, male students score 2809 with a mean score of 59.77 and standard deviation of 10.87 while female students

score 785 with a mean score of 60.38 and standard deviation of 15.22. Female students performed better than male students. This showed that, there is difference in the academic performance of male and female students exposed to jigsaw method of teaching Principles of Accounts. Based on the analysis, there is a significant difference between the performance of male and female students taught Principles of Accounts using jigsaw method in colleges of education in Northeast, Nigeria.

Research Question five: *What is the difference in the academic performances of male and female students in Principles of Accounts taught using think-pair-share method in colleges of education in Northeast, Nigeria?*

In order to address research question four, the data collected were analyzed using the mean score as presented in Table 9.

Table 9: *Analysis of difference in the mean performance of male and female taught Principles of Accounts using think-pair-share method*

Think-pair-share	N	Total	Mean	SD	Mean Diff
Male	46	2521	54.80	11.39	
Female	14	726	51.86	10.44	2.95
	60	3382	56.37	11.51	

Field work, 2016

Table 9 showed the difference in the performance of male and female students in Principles of Accounts using think-pair-share method. The result showed that, male students earned a higher mean score of 54.80% with standard deviation of 11.39 against female students with 51.86% and standard deviation of 10.44 respectively. The result showed male students performed better than their female counterparts when taught Principles of Accounts using think-pair-share method. Based on the analysis, there is a difference between the performance of female and male students taught Principles of Accounts in colleges of education in Northeast, Nigeria.

4.3 Testing of Null Hypotheses

Results of the test of the five null hypotheses are presented in Table 10 to 4.14.

H0₁ *Jigsaw method has no significant effects on students' academic performance in principle of accounts in colleges of education in Northeast, Nigeria.*

Data collected to address the null hypothesis one is presented in table 10.

Table 10: Regression Analysis of effect of jigsaw method on students' academic performance in Principles of Accounts

Variable	B	Std. Error	t	R-crit	R-cal	R ²	Adjusted R ²	Sig.
Jigsaw Method	16.45	4.963	3.316	0.088	.707	.500	.492	.000
Students Performance	0.624	.082	7.620					

Field work, 2016

The result of the data used to determine the effects of jigsaw method on students academic performance in Principles of Accounts in colleges of education in northeast, it shows the Constant Beta (Jigsaw method) value of 16.45 with the t value of 3.316 against the coefficient value of 0.624 and t-value of 7.620 for students' performance. The calculate R value was .707 found to be greater than Table value of 0.088. The R² was .500 and adjusted R² of .492 with p-value of .000. The result showed that, jigsaw method has 50% effect on the performance of business education students in Principles of Accounts determined by students' performance. The observed effect (r=0.707) was significant, therefore Jigsaw method has an effect on students academic performance in Principles of Accounts in colleges of education in the north east. Hence the null hypothesis is therefore rejected.

H0₂ *Think-pair-share method has no significant effects on students' academic performance in Principles of Accounts in colleges of education in Northeast, Nigeria.*

To test null hypothesis two, pre-test and post-test scores of students exposed to think-pair-share method were computed using simple regression analysis at 0.05 level of significance as seen in Table 11.

Table 11: Regression Analysis of effect of think-pair-share method on students' academic performance in Principles of Accounts

Variable	B	Std. Error	t	R-crit	R-cal	R ²	Adjusted R ²	Sig.
Think-pair-share method	11.540	3.820	3.021	0.088	.830	.689	.684	.000
Students Performance	0.753	.066	11.336					

Field work, 2016

The result of the data used to determine the effects of jigsaw method on students academic performance in Principles of Accounts in colleges of education in northeast, shows the Constant Beta (Think-pair-share method) value of 11.540 with the t value of 3.021 against the coefficient value of 0.753 and t-value of 11.336 for students performance. The calculate R value was .830 found to be greater than Table value of 0.088. The R² was .689 and adjusted R² of .684 with p. the value of .000. The result showed that, think-pair-share method has 69% effect on the performance of business education students in Principles of Accounts determined by students' performance. The observed effect (r=0.830) was significant, therefore think-pair-share method has an effect on students academic performance in Principles of Accounts in colleges of education in the northeast. Hence the null hypothesis is therefore rejected.

H0₃ *There is no significant differences between the performance of business education students taught Principles of Accounts using jigsaw method and those taught using think-pair-share methods in colleges of education in Northeast*

To test null hypothesis three, a post-test score of students taught principles of account using jigsaw method and those taught using think-pair-share method were compared. The scores were analyzed using t-test at 0.05 level of significant as presented in Table 12.

Table 12: *t-test analysis on difference in performance of students taught Principles of Accounts using jigsaw method and those taught using think-pair-share methods*

Methods	N	Mean X	SD	DF	t-cal	t-crit.	Sig.
Jigsaw	60	59.53	11.51	118	1.507	1.98	.135
Think-pair-share	60	56.37	11.51				

Fieldwork, 2016

Table 12 indicates that, since the calculated t-value is 1.507 while table value is 1.98, the t-calculated is less than the table value of the t ($1.507 < 1.98$), the null hypothesis is therefore accepted and concluded that there is no significant differences in the academic performance of students taught Principles of Accounts using jigsaw method and that of those taught using think-pair-share method in colleges of education in northeast, though there is a significant difference in the mean performance but statistically there is none as revealed by t-test.

H0₄ *There is no significant differences between the academic performances of male and female students taught Principles of Accounts using jigsaw methods in colleges of education in the north east, Nigeria.*

Analysis of data used to test null hypothesis four is as presented in Table 13.

Table 13: *t*-test analysis for difference in the academic performance of male students that taught Principles of Accounts using Jigsaw method

Jigsaw Method	N	Mean X	SD	DF	t-cal	t-crit.	Sig.
Male	47	59.77	10.87				
				58	.166	2.00	0.869
Female	13	60.38	15.23				

Field Work, 2016

The result of data used to determine the difference in the mean performance of male and female students taught Principles of Accounts using jigsaw method. The analysis revealed the mean score of 59.77 with a standard deviation of 10.87 for male against the mean score of 60.38 with a standard deviation of 15.23. The t-cal was found to be less than the t-critical ($0.166 < 2.00$) at a significance level of 0.869. Since the t-critical of 2.00 is greater than the t-cal of 0.166, the null hypothesis that says there is no significant difference between the performance of male and female students taught Principles of Accounts using jigsaw method was retained. Although the mean scores showed differences in the academic performance but statistically the difference is not significant as revealed by t-test statistics. Therefore, based on the mean scores the female students performed better than the male students using jigsaw method.

H0₅ *There is no significant differences between the academic performances of male and female students taught Principles of Accounts using think-pair-share methods in colleges of education in northeast, Nigeria*

To test null hypothesis five, post-test scores of male and female students taught principles of the account using think-pair-share method were compared as seen in Table 14.

Table 14: *t*-test analysis for difference in the academic performance of male students that taught Principles of Accounts using think-pair-share method

Think-pair-share method	N	Mean X	SD	DF	t-cal	t-crit.	Sig.
Male	46	54.80	11.39	58	.863	2.00	.0392
Female	14	51.86	10.86				

Field Work, 2016

The result of data used to determine the difference in the mean performance of male and female students taught Principles of Accounts using think-pair-share method. The analysis revealed the mean score of 54.80 with a standard deviation of 11.39 for male against the mean score of 51.86 with a standard deviation of 10.43. The t-cal was found to be less than the t-critical ($0.863 < 2.00$) at a significance level of 0.392. Since the t-critical of 2.00 is greater than the t-cal of 0.166, the null hypothesis that says there is no significant difference between the performance of male and female students taught Principles of Accounts using think-pair-share method was retained. Although the mean scores show the differences in the academic performance but statistically the difference is not significant as revealed by t-test statistics. Therefore, based on mean scores the male students performed better than the female students when exposed to think-pair-share method.

4.4 Summary of the Major Findings

From the data analysis, the following are summary of the major findings:

1. The result of research question one and null hypothesis one revealed that Jigsaw method has an effect on students' academic performance in Principles of Accounts in colleges of education in northeast with a mean of 59.53% and r^2 (0.500). Indicating that 50% of the variability of performance of students in Principles of Accounts achievement test was determined by Jigsaw method ($p = 0.000 < 0.05$).
2. The result from research question two and null hypothesis two revealed that think-pair-share teaching method had an effect on students' academic performance in Principles of

Accounts in colleges of education in northeast with a mean of 56.37%, the standard deviation of 11.51 and r^2 (0.689) indicating an increase of performance of students with 69% in Principles of Accounts achievement test. ($p = 0.000 < 0.05$).

3. There is a significant difference in the mean performance of students taught principles of the account using Jigsaw method and those taught using think-pair-share method in colleges of education in northeast Nigeria, with a mean score of 59.53 against 56.37. This implies that jigsaw method is more effective than think-pair-share method of teaching with a value of ($P=.135$).

4. Female students that were taught Principles of Accounts using jigsaw method performed better than male students with a mean score of 60.38 and standard deviation of 15.23 against 59.76 with a standard deviation of 10.87, with a value of ($P=.869$).

5. Male students that taught Principles of Accounts in colleges of education in northeast using think-pair-share method performed better than female students with a mean score of 54.80 and standard deviation of 11.39 for male students against 51.86 for female students. ($P=.392$).

4.5 Discussions of the Major Findings

The study showed that, jigsaw method has an effect on academic performance of business education students in Principles of Accounts. This finding is in agreement with that of Aronson, (2008), who observed that the significance of using jigsaw method in teaching is to promote students learning and academic achievement and this helps increase student's retention. The effectiveness of jigsaw method can be explained by the usefulness of sharing idea and peer tutoring in small groups. Sahin (2010), affirmed that the effectiveness of Jigsaw method can be attributed to the fact that students learn their subject topics by fulfilling their individual responsibilities, they try to make their friends understand the

topic, they have effective interactions with their friends, and are all actively involved in the process. Therefore, jigsaw method made learning more interactive and sustains the students' interest and keeps them focused on the lesson.

The results of the study also revealed that, think-pair-share method has an effect on academic performance of business education students in Principles of Accounts. This finding is in agreement with the finding of Walters and Ginns (2001) who showed the effectiveness of think-pair-share strategy in producing significantly higher achievement posttest mean scores than pretest mean scores. Also, the finding of Bataineh (2015), revealed that, students taught using think-pair-share method have gained mean scores significantly different from those students taught using traditional method in the post-test which lead to the fact that using such method in teaching students will enhance performance. It help the students to learn and to be able to organize, store, retrieve knowledge, and skills by applying what they know about how the brain learn, store and remembers.

The finding further showed that there is a significant difference in the mean scores of students' academic performance in Principles of Accounts as shown in table 4.8, a test of null hypothesis three when students were exposed to jigsaw and think-pair-share method. This is in agreement with the findings of Bot, (2012), Madu and Hogan-Bassey, (2010), Ibrahim, (2010) who observed that the use of innovative teaching method approaches and materials enhanced students performance in mathematics. Moreover, the finding did not agree with those of Slis, (2005) and Carpenter, (2006) did not observed any significant difference in the achievement of the jigsaw and the non-jigsaw groups. Thus, students who were taught using jigsaw method performed better than those taught using think-pair-share method.

The study further showed that female students that were taught Principles of Accounts using jigsaw method performed better than male students with a mean score of 60.38 and standard deviation of 15.22 against 59.77 with a standard deviation of 10.87. However, the finding concurred with Kayode (2002) that gender differences favored girls in reading performance and that males excelled in tasks that involve virtually all aspects of the linguistic processes such as speech, reading, spelling, clarity, and fluency. Also, in contrary to this, the finding of Wachanga and Mwangi (2004) found no significant differences between boys and girls who were exposed to cooperative learning in chemistry and boys and girls in the experimental groups who were instructed through jigsaw method in chemistry performed better in the posttest. Adeyemi (2008) reported no significant differences in the academic achievement of boys and girls of equivalent abilities when they were taught social studies through jigsaw method.

Lastly, the outcome of the study revealed that, the male students that were taught Principles of Accounts in colleges of education in northeast using think-pair-share method performed better than female students with a mean score of 55.00 and standard deviation of 9.76 for female students against 53.58 for male students. This is in agreement with the finding of Billings (2000), Croxford (2002), Oladunjoye (2003) and Aguele and Uhumuavbi (2008) who observed that the male students achieved significantly better than the female students in science education. Also, the finding is in contrary to that of Uwaimeiyee and Ogunbameru (2005) who found that gender has no significant effect on the performance of male and female students taught using guided discovery and convention.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

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

- 5.1 Summary
- 5.2 Contribution to Knowledge
- 5.3 Conclusion
- 5.4 Recommendations
- 5.5 Suggestion for Further Study

5.1 Summary

The research work was on the Effects of Jigsaw and Think-pair-share Methods on Students Academic Performance in Principles of Accounts in Colleges of Education in Northeast, Nigeria. The study had five specific objectives, five research questions, and five null hypotheses. The literature related to this research study were reviewed. The researcher adopted quasi- experimental design. The population of the study was nine hundred (900) NCE 1 business education students offered Principles of Accounts in 2015/2016 academic session. One hundred and twenty (120) students used for the study. The instruments used for data collection is Principles of Accounts Achievement Test (PAAT). The tests were marked using a drawn marking scheme. Mean and standard deviation was used to answer the research questions. In the test of Null hypotheses, simple regression analysis was used to test null hypotheses one and two, while t-test statistic was used to test null hypotheses three, four, and five. All the null hypotheses stated were tested at 0.05 levels of significance. The study revealed that:-

1. Jigsaw method had a variance of the R^2 value of .500 (50%) contribution to the performance of business education students in Principles of Accounts achievement test.

2. Think-pair-share method had a variance of .689 (69%) of the variability of performance of business education students in Principles of Accounts on the achievement test.
3. There is a significant difference in the mean performance of students taught principles of the account using Jigsaw method and those taught using think-pair-share method in colleges of education in northeast Nigeria, (P=.135).
4. Female students that taught Principles of Accounts using jigsaw method performed better than male in colleges of education in the north east, Nigeria. (P=.869).
5. Male students that taught Principles of Accounts in colleges of education in northeast using think-pair-share method performed better than female students. (P=.392).

5.2 Contribution to Knowledge

The study established that:

1. Jigsaw method had strong effects on students' academic performance in Principles of Accounts in Colleges of Education in Northeast, Nigeria. (P=.000).
2. Think-pair-share method had moderate effects on students' academic performance in Principles of Accounts in Colleges of Education in Northeast, Nigeria. (P=.000).
3. Jigsaw method improves students' academic performance in teaching Principles of Accounts in Colleges of Education in Northeast Nigeria, (P=.135).
4. The performance of female students improves using jigsaw method in Principles of Accounts in Colleges of Education in the north east, Nigeria. (P=.869).
5. The performance of male students improves using think-pair-share method in Principles of Accounts in Colleges of Education in the Northeast, Nigeria. (P=.392).

5.3 Conclusion

Based on the findings discussed in chapter four, the study revealed that, jigsaw and think-pair-share methods are appropriate methods to be used in teaching Principles of Accounts. It is also revealed that jigsaw and think-pair-share methods assist Principles of Accounts Students to improve academic performance regardless of their gender difference. If this is the case, it could be concluded that students taught with this methods are capable of earning good grade which will enable them to secure admission into universities, this will also make their parents proud and also they would become productive members of the society after graduation.

5.4 Recommendations

Based on the findings of the study, the following recommendations were made:

1. since the study revealed that jigsaw and think-pair-share methods significantly affected students' academic performance, it is therefore recommended that Principles of Accounts teacher should be trained in the use of effective instructional methods in the classroom, such as jigsaw and think-pair-share methods in teaching Principles of Accounts so as to improve the students' academic performance in colleges of education in Northeast, Nigeria.
2. Curriculum planners should consider the jigsaw and think-pair-share methods as effective methods for teaching Principles of Accounts when designing a curriculum for Accounting Education.
3. Equal opportunities should be given to both male and female students in colleges of education in Northeast in the teaching and learning process.
4. Colleges of Education should organize a workshop, seminar to teachers toward student-centred methods like a Jigsaw and the Think-pair-share methods so as to improve students' academic performance in Principles of Accounts.

5. School authorities should motivate accounting students who perform well so as to encourage the students to perform better in the learning process.

5.5 Suggestions for further Studies

A replica of this study should be conducted in the state colleges of education in the northeast , Nigeria to serve as a basis for comparison of the findings of the study.

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APPENDIX 'I'

LETTER OF INTRODUCTION



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

VICE CHANCELLOR: **Prof. Ibrahim Garba** (B.Sc., M.Sc. (ABU) Ph.D (London) D.L.C)

Telephone: 069-51755, 50692

HEAD OF DEPARTMENT: **Dr. E.E. Adamu**, OND (Kad Poly), B.Sc (Hons) ISU (USA) PGDE (ABU) M.ED (ABU) Ph.D. (ABU)

Your Ref: _____

Date: 27/06/2016

Our Ref: P14EDVE8047

Letter of Introduction

UMAR ISA BADEJO

This is to certify that the above mentioned name is a Postgraduate student in the Department of Vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria, carrying out a research topic: Effect of Jigsaw and Think-Pair share method on Students Academic Performance in Accounting in Colleges of Education in North-East Geo-Political Zone, Nigeria.

Please, kindly give him every assistance he may require.

Dr. E.E. Adamu
Head of Department

APPENDIX 'II'

PRE-TEST

Instruction: Answer ALL Question

- a. The book of original entry could otherwise be called
 - a. The ledger
 - b. the cash book
 - c. subsidiary books
 - d. journal proper
- b. A motor vehicle was bought on credit to run a business. The accounting entries are DEBIT (Dr.).
 - a. Purchase account, credit motor vehicle account
 - b. Motor vehicle account, credit sale account
 - c. Motor vehicle account, credit supplier account
 - d. Supplier account, credit motor vehicle account.
- c. Cash book could be best defined as
 - a. A subsidiary book and a ledger for cash accounts
 - b. A subsidiary book
 - c. A subsidiary book for cash transaction only
 - d. A subsidiary book for ledger entry only
- d. There are types of the cash book.
 - a. 4 column cash book
 - b. 1,2, and 3 column cash book
 - c. 1 column cash book
 - d. 2 column cash book.
6. Cash discount is given for....
 - a. Buying the goods in large quantity
 - b. Being a regular customer
 - c. Prompt settlement of debt
 - d. To the honest customer
7. If Auwal bought goods on credit from Badejo, the accounting entries in the book of Badejo are:

- a. Credit Auwal and debit purchase
 - b. Debit Badejo and credit sale
 - c. Credit Badejo and debit sales
 - d. Debit Auwal and credit sales
8. A trial balance is not regarded as an account because it.....
- a. It does not have a date column
 - b. b. it does not have debit and credit side
 - c. It does not follow the rule of double entry
 - d. It is a summary of balance in the ledger at a given time
9. Which of the following is not regarded as a specialized book of account?
- a. Bought journal b. sale journal c. proper journal d. return journals.
10. Purchases account contains...
- a. Entries of goods sold on credit only
 - b. Entries of goods bought on credit only
 - c. Entries of credit purchases only
 - d. Entries of cash and credit purchases.
11. Double entry principles stated that...
- a. Each transaction having a debit entry must have a corresponding debit entry in another account
 - b. For every debit, credit entry must be recorded twice
 - c. For every credit, debit entry must be recorded twice
 - d. For each transaction with a debit, entry must have a corresponding credit entry.
12. The distinguishing between a two column and three column cash book is?
- a. Discount column b. Cash column c. Bank column d. Folio column
13. Goods sent back to the supplier as a result of poor quality is referred to as...

- a. Cash book b. return inwards c. return outward d. general ledger
14. Purchase in accounting refers to goods bought for....
- a. Resale b. Repairs c. Final usage d. For consumption.
15. Is the book of prime entry
- a. Subsidiary book b. trading account c. trial balance d. partnership
16. The balance from the cash book should not be posted to the ledger because...
- a. The account has been balanced for the month concerned
- b. The account has been closed for the period stated
- c. Cash book is one of the subsidiary books of a ledger
- d. Cash book also performs the function of a ledger
17. Copies of receipts issued to the customer are entered to the.
- a. credit side of the cash book b. debit side of the cash book
- c. sale journal d. purchase journal
17. A motor van was bought on credit, the transaction will be entered by the customer in the
- a. purchase day book b. sales day book c. returns journal d. cash book.
18. The main principles of cash book are, debit the giver and credit the.....
- a. buyer b. *seller c. Receiver d. return
19. All the following are regarded as specialized books of account?
- a. Journal proper b. Sales journal c. Returns journal d. Bought journal
20. Trade discount received is recorded only in the....
- a. Cash book b. Ledger c. Trial balance d. Sales journal

APPENDIX 'III'

PRE- TEST MARKING SCHEME

Each question carries two (2) marks

1. C- subsidiary book
2. C- motor vehicle account, credit supplier account
3. A- a subsidiary book and a ledger for cash account
4. B- 1, 2 and 3 column cash book
5. C- prompts settlement of debt
6. D- debit Auwal and credit sale
7. D- it is a summary of balance in the ledger at a given time
8. C- proper journal
9. D- entries of cash and credit purchases
10. D- for each transaction with a debit entry must have a corresponding credit entry
11. A- discount column
12. C-return outward
13. A- resale
- 14 .A- subsidiary book
15. D- cash book also performs the function of a ledger
16. B- debit side of the cash book
17. A purchase day book
18. C- receiver
19. A- journal proper
20. A- cash book

APPENDIX 'IV'

POST-TEST

Instruction: answer all questions in this section.

Question 1a. Write short note on the following

- i. Trading account
- ii. Profit and loss account
- iii. Balance sheet

Question 1b. Enumerate at least (5) the terminologies of trading, profit and loss account and balance sheet that you know

Question 2. The following is the trial balance of Aliyu Musa Wase Nigerian limited as 31st December, 2014.

TRIAL BALANCE AS AT 31/12/2014

DESCRIPTION	DR	CR
	N	N
Purchases	11,556	
Stock 1 st January,2014	3,776	
Carriage outward	326	
Carriage inward	234	
Return inwards	440	
Salaries and Wage	2447	
Motor expenses	664	
Rent	576	
General expenses	1,202	
Motor vehicle	2,400	
Furniture and fittings	600	
Debtors	4,577	
Cash in hand	120	
Cash at bank	3,876	
Drawings	2,050	
Returns Outwards		355
Sales		18,600
Creditors		3,045
Capital		12,844
	<u>34,844</u>	<u>34,844</u>

Stock in trade at 31/ December/ 2014

You are required to prepare trading, profit and loss account for the year ended 31st December, 2014 and a balance sheet at that date.

APPENDIX 'V'

POST-TEST MAKING SCHEME

Each correct answer carry two (2) marks $2 \times 40 = 80$ and plus 20 marks of question one making a total of 100 marks (100%).

Question 1a.

- i. Trading Account:** -This is that section of the final account meant to ascertain whether the business makes a gross profit or loss. The aim of trading account is to determine the gross profit or loss of the business. The trading account helps in determining the trading position of a business. The gross profit or gross loss is arrived at after charging the goods and material and other items of direct cost.
- ii. Profit and loss Account:** -This is the section of the final account meant to show the true profit or loss of the business. Such profit or loss is a tagged "NET". It is the net profit or loss because all the trading and administrative expenses have now been taken into consideration. Such expenses which must be deducted from the gross profit include discount allowed, wages paid, salaries etc, while such income to the business like discount received, the commission received etc must be added to the gross profit. To arrive at the net profit, all the expenses which are normally debited in the profit and loss account are deducted from the gross profit.
- iii. Balance Sheet:** -This is the last section of the final account. It is not regarded as an account; rather it is regarded as a statement of financial position of the business at a particular date. The two side of the balance are **ASSETS** and **LIABILITIES**

Question 2. (EACH ENTRY CARRIES 2 MARKS)

ALIYU MUSA WASE TRADING ACCOUNT AS AT 31ST DECEMBER, 2014

	N	N		N
Opening stock 1/12/2014		3,776	Sales	18,600
Add purchases	11,556		Less return inward	<u>440</u>
Less returns outward	<u>355</u>		Turnover	<u>18,160</u>
Cost of goods available for sale	11,201			
Add carriage inwards	<u>234</u>	<u>11,435</u>		
		15,211		
Less closing stock		<u>4,998</u>		
Cost of goods sold		10,213		
Gross profit c/d		<u>7,947</u>		
		<u>18,160</u>		<u>18,160</u>

ALIYU MUSA WASE PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER, 2014

Less Expenses	N	N		N
Salaries		2,447	Gross profit b/d	7,947
Motor Expenses		664		
Rent		576		
Carriage Outwards		1,202		
Net profit		<u>2,732</u>		
		<u>7,947</u>		<u>7,947</u>

ALIYU MUSA WASA BALANCE SHEET AS AT 31/DECEMBER/2014

<u>Capital And Liabilities</u>	N	N	<u>FIXED ASSETS</u>	N	N
<u>Capital</u>	12,844		Furniture and fittings	600	
<u>Add Net Profit</u>	<u>2,732</u>		Motor vehicles	<u>2,400</u>	3,000
	15,576				
Less Drawings	<u>2,050</u>	13,526			
<u>Current Liabilities</u>			<u>Current assets</u>	4,998	
Creditors		3,045	Stock	4,577	
			Debtors	3,876	
			Cash at bank	<u>120</u>	<u>13,571</u>
		<u>16,571</u>	Cash at hand		<u>16,571</u>

APPENDIX 'VI'

LESSON PLAN (JIGSAW METHOD) ONE

Name of Teacher:	Umar Isa Badejo
College:	Federal College of Education (Technical), Gombe
Level:	NCE ONE
Average Age:	20-25 years.
Subject:	Principles of Accounting I
Topic:	Trading account
Time:	09.00am-11.00am
Duration:	Two hour
General Objective:	To teach the students how to prepare trading account.
Behavioral objectives:	At the end of this lesson, students should be able to: i. Define trading account and its terminologies. ii. Prepare trading account, to determine costs of goods available for sale and goods sold and gross profit.
Methods of teaching:	Jigsaw method
Previous knowledge:	Students have been taught rules for preparing trial balance
Introduction:	The teacher introduces the lesson by asking students question as what is trial balance and what cause the disagreement in the trial balance

PRESENTATION OF THE LESSON

STEP I: Teacher defines trading account and explains the terminologies and importance of trading account.

STEP II: The teacher goes further by drawing the format of trading account and demonstrates to the students how the trading account can be prepared with illustrations.

STEP III: With illustration, the teacher guides the students on how to determine the cost of goods available for sale and cost of goods sold.

STEP IV: The teacher guide the students on how to get gross profit or loss of the business

STEP V: Then, the teacher group the students according to jigsaw groups and share the typing task for the students to demonstrate.

STEP VI: The teacher goes round from one group to another observing each group work, listening to their discussion and make a clarification when the need arises.

SUMMARY: The teacher goes over the lesson and highlights the main point worth remembering in the lesson.

EVALUATION: The teacher evaluates the student by asking them the following questions:

1. Mention 5 items of trading account.
2. Draw up the format of trading account showing the cost of goods sold.

ASSIGNMENT: The teacher assigns a task to each expert group to discuss on the task.

APPENDIX 'VII'

LESSON PLAN (JIGSAW METHOD) TWO

Name of Teacher:	Umar Isa Badejo
College:	Federal College of Education (Technical), Gombe
Level:	NCE ONE
Average Age:	20-25 years.
Subject:	Principles of Accounting I
Topic:	Profit and loss account
Time:	09.00am-11.00am
Duration:	Two hour
General Objective:	To teach the students how to prepare profit and loss account.
Behavioral objectives:	At the end of this lesson, students should be able to: <ol style="list-style-type: none">i. Define Profit and loss account and its terminologies.ii. Prepare profit and loss account, to determine net profit
Methods of teaching:	Jigsaw method
Previous knowledge:	Students have been taught trading account.
Introduction:	The teacher introduces the lesson by asking students question as what is trading account and list any four trading account terminologies

PRESENTATION OF THE LESSON

STEP I: Teacher defined profit and loss account and explains the terminologies and importance of profit and loss account.

STEP II: The teacher goes further by drawing the format of profit and loss account and demonstrates to the students how profit and loss account can be prepared with illustrations.

STEP III: With illustration, the teacher guides the students on how to determine the net of profit or net loss of the business

STEP IV: The teacher then groups the students according to their jigsaw groups and share out the type of task for the students to solve.

STEP V: The teacher goes from one group to another observing each group's works, listening to their discussion and make clarifications when the need arises.

SUMMARY: The teacher goes over the lesson and highlights the main point worth remembering in the lesson.

EVALUATION: The teacher evaluates the student by asking them the following questions:

1. Mention 5 items of profit and loss account
2. Draw up the format of profit and loss account and how to get the net profit

ASSIGNMENT: The teacher assigns a topic to each expert group to discuss the next topic

APPENDIX 'VIII'

LESSON PLAN (JIGSAW METHOD) THREE

Name of Teacher:	Umar Isa Badejo
College:	Federal College of Education (Technical), Gombe
Level:	NCE ONE
Average Age:	20-25 years.
Subject:	Principles of Accounting I
Topic:	Balance Sheet
Time:	09.00am-11.00am
Duration:	Two hours
General Objective:	To teach the students how to prepare Balance
Behavioral objectives:	At the end of this lesson, students should be able to: <ol style="list-style-type: none">i. Define Balance sheet and its terminologiesii. Prepare Balance Sheet
Methods of teaching:	Jigsaw method
Previous knowledge:	Students have been taught profit and loss account
Introduction:	The teacher introduces the lesson by asking students question as what is profits and loss account and identify some terminologies of profit and loss account

PRESENTATION OF THE LESSON

STEP 1: Teacher defines balance sheet and explains the terminologies and importance of balance sheet

STEP II: The teacher goes further by drawing the format of the Balance sheet and demonstrates to the students how balance sheet can be prepared with illustrations.

STEP III: With illustration, the teacher guides the students on how to determine the working capital of the business

STEP IV: The teacher then groups the students to their jigsaw groups and share out the type task for the students to solve

STEP V: The teacher then goes round from one group to another observing each group work, listening to their discussion and make clarification when the need arises.

SUMMARY: The teacher goes over the lesson and highlights the main point worth remembering in the lesson.

EVALUATION: The teacher evaluates the student by asking them the following questions:

1. Mention 5 items of Balance Sheet
2. Draw up the format of balance sheet

ASSIGNMENT: The teacher assigns a task to each expert group to discuss on the task.

APPENDIX 'X'

LESSON PLAN (THINK-PAIR-SHARE METHOD) ONE

Name of Teacher:	Umar Isa Badejo
College:	Federal College of Education (Technical), Gombe
Level:	NCE ONE
Average Age:	20-25 years.
Subject:	Principles of Accounting I
Topic:	Trading account
Time:	09.00am-11.00am
Duration:	Two hour
General Objective:	To teach the students how to prepare trading account.
Behavioral objectives:	At the end of this lesson, students should be able to: i. Define trading account and its terminologies. ii. Prepare trading account, to determine costs of goods available for sale and goods sold and gross profit.
Methods of teaching:	Think-pair-share method
Previous knowledge:	Students have been taught rules for preparing trial balance
Introduction:	The teacher introduces the lesson by asking students question as what is trial balance and what cause the disagreement in the trial balance

PRESENTATION OF THE LESSON

STEP I: Teacher defines trading account and explains the terminologies and importance of trading account.

STEP II: The teacher goes further by drawing the format of trading account and demonstrates to the students how the trading account can be prepared with illustrations.

STEP III: With illustration, the teacher guides the students on how to determine the cost of goods available for sale and cost of goods sold.

STEP IV: The teacher guides the students on how to get gross profit or loss of the business

STEP V: Then, the teacher group the students according to think-pair-share groups and share the type task for the students to demonstrate.

STEP VI: The teacher goes round from one group to another observing each group work, listening to their discussion and make a clarification when the need arises.

SUMMARY: The teacher goes over the lesson and highlights the main point worth remembering in the lesson.

EVALUATION: The teacher evaluates the student by asking them the following questions:

1. Mention 5 items of trading account.
2. Draw up the format of trading account showing the cost of goods sold.

ASSIGNMENT: The teacher assigns a task to each student to discuss on the task.

APPENDIX 'XI'

LESSON PLAN (THINK-PAIR-SHARE METHOD) TWO

Name of Teacher:	Umar Isa Badejo
College:	Federal College of Education (Technical), Gombe
Level:	NCE ONE
Average Age:	20-25 years.
Subject:	Principles of Accounting I
Topic:	Profit and loss account
Time:	09.00am-11.00am
Duration:	Two hour
General Objective:	To teach the students how to prepare profit and loss account.
Behavioral objectives:	At the end of this lesson, students should be able to: <ol style="list-style-type: none">i. Define Profit and loss account and its terminologies.ii. Prepare profit and loss account, to determine net profit
Methods of teaching:	Think-pair-share method
Previous knowledge:	Students have been taught trading account.
Introduction:	The teacher introduces the lesson by asking students question as what is trading account and list any four trading account terminologies

PRESENTATION OF THE LESSON

STEP I: Teacher defines profit and loss account and explains the terminologies and importance of profit and loss account.

STEP II: The teacher goes further by drawing the format of profit and loss account and demonstrates to the students how profit and loss account can be prepared with illustrations.

STEP III: With illustration, the teacher guides the students on how to determine the net of profit or net loss of the business

STEP IV: The teacher then groups the students according to think-pair-share groups and share out the type task for the students to solve.

STEP V: The teacher goes from one group to another observing each group's works, listening to their discussion and make clarifications when the need arises.

SUMMARY: The teacher goes over the lesson and highlights the main point worth remembering in the lesson.

EVALUATION: The teacher evaluates the student by asking them the following questions:

1. Mention 5 items of profit and loss account
2. Draw up the format of profit and loss account and how to get the net profit

ASSIGNMENT: The teacher assigns a topic to each group to discuss on the next t

APPENDIX 'XII'

LESSON PLAN (THINK-PAIR-SHARE METHOD) THREE

Name of Teacher:	Umar Isa Badejo
College:	Federal College of Education (Technical), Gombe
Level:	NCE ONE
Average Age:	20-25 years.
Subject:	Principles of Accounting I
Topic:	Balance Sheet
Time:	09.00am-11.00am
Duration:	Two hours
General Objective:	To teach the students how to prepare Balance
Behavioral objectives:	At the end of this lesson, students should be able to: <ul style="list-style-type: none">i. Define Balance sheet and its terminologiesii. Prepare Balance Sheet
Methods of teaching:	Think-pair-share method
Previous knowledge:	Students have been taught profit and loss account
Introduction:	The teacher introduces the lesson by asking students question as what is profits and loss account and identify some terminologies of profit and loss account

PRESENTATION OF THE LESSON

STEP 1: Teacher defines balance sheet and explains the terminologies and importance of balance sheet

STEP II: The teacher goes further by drawing the format of the Balance sheet and demonstrates to the students how balance sheet can be prepared with illustrations.

STEP III: With illustration, the teacher guides the students on how to determine the working capital of the business

STEP IV: The teacher then groups the students to think-pair-share groups and share out the type task for the students to solve

STEP V: The teacher then goes round from one group to another observing each group work, listening to their discussion and make clarification when the need arises.

SUMMARY: The teacher goes over the lesson and highlights the main point worth remembering in the lesson.

EVALUATION: The teacher evaluates the student by asking them the following questions:

1. Mention 5 items of Balance Sheet
2. Draw up the format of balance sheet

ASSIGNMENT: The teacher assigns a task to each group to discuss on the task

APPENDIX 'XIII'

PRE-TEST AND POST-TEST SCORES

S/N	JIGSAW METHOD				THINK-PAIR-SHARE METHOD			
	PRE-TEST SCORES	GRADE	POST-TEST SCORES	GRADE	PRE-TEST SCORES	GRADE	POST-TEST SCORES	GRADE
1	40	E	55	C	44	E	50	C
2	50	C	52	C	50	C	32	F
3	55	C	48	D	47	D	58	C
4	60	B	78	A	71	A	76	A
5	50	C	69	B	70	A	76	A
6	66	B	66	B	57	C	66	B
7	59	C	59	C	38	F	45	E
8	30	F	30	F	40	E	45	E
9	67	B	80	A	64	B	70	A
10	65	B	71	A	35	F	40	E
11	52	C	52	C	60	B	66	B
12	45	E	45	E	52	C	52	C
13	56	C	80	A	42	E	42	E
14	60	B	70	A	70	A	78	A
15	50	C	53	C	50	C	51	C
16	54	C	54	C	54	C	54	C
17	50	C	50	C	58	C	58	C
18	48	D	47	D	39	F	49	D
19	66	B	68	B	68	B	68	B
20	67	B	82	A	50	C	50	C
21	50	C	67	B	47	D	47	D
22	48	D	50	C	60	B	60	B
23	69	B	73	A	56	C	56	C
24	80	A	70	A	59	C	62	B
25	50	C	60	B	38	F	52	C
26	48	D	68	B	55	C	57	C
27	30	F	72	A	78	A	85	A
28	44	E	54	C	39	F	67	B
29	49	D	50	C	69	B	70	A
30	40	E	45	E	66	B	66	B
31	55	C	69	B	53	C	56	C
32	50	C	57	C	55	C	59	C
33	50	C	68	B	75	A	78	A
34	40	E	55	C	60	B	65	B
35	56	C	68	B	43	E	53	C
36	67	B	70	A	45	E	57	C
37	50	C	50	C	58	C	60	B

38	54	C	54	C	45	E	55	C
39	59	C	59	C	56	C	60	B
40	47	D	47	D	58	C	65	B
41	54	C	54	C	46	D	54	C
42	60	B	60	B	62	B	60	B
43	68	B	73	A	60	B	50	C
44	71	A	80	A	47	D	45	E
45	66	B	70	A	43	E	40	E
46	60	B	68	B	55	C	55	C
47	56	C	58	C	47	D	47	D
48	34	F	41	E	43	E	38	F
49	40	E	40	E	60	B	60	B
50	45	E	45	E	64	B	64	B
51	50	C	53	C	55	C	50	C
52	57	C	57	C	55	C	51	C
53	67	B	70	A	68	B	68	B
54	60	B	67	B	53	C	50	C
55	62	B	62	B	59	C	59	C
56	48	D	55	C	38	F	30	F
57	50	C	50	C	50	C	50	C
58	49	D	51	C	45	E	40	E
59	43	E	45	sE	45	E	45	E
60	50	C	58	C	70	A	70	A