TITLE PAGE

COMPARISON OF PEER TUTORING AND MEMORIZATION STRATEGIES ON STUDENTS' ACHIEVEMENT IN MANUFACTURERS' FINAL ACCOUNTS IN COLLEGES OF EDUCATION IN ANAMBRA STATE, NIGERIA.

BY

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APPROVAL PAGE

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The work embodied in this thesis is original and has not been submitted in part or full for any other Diploma or Degree in this or any other university.

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DEDICATION

This work is dedicated to God Almighty for His infinite mercy and to my husband and children for their patience.

ACKNOWLEDGEMENTS

The researcher expresses her profound gratitude to Almighty God and to those who contributed in one way or another to make this work a success.

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Eze Maryrose I.
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ABSTRACT

Memorization is a common teaching strategy used by most teachers in the Nigeria educational system. The effect of this strategy on students' achievement in whatever field has not been ascertained. However, due to regular poor performance of students in manufacturing accounts, the peer tutoring strategy which is now gaining popularity was experimented with to see if the students' performance would improve. This study compared peer tutoring strategy with memorization strategy on students' achievement in manufacturers' final accounts in colleges of education in Anambra State, Nigeria. A quasi-experimental non-randomized control, pretest/posttest design was adopted. The population for the study comprised all 72 NCE year II Business Education (Accounting) students drawn from the two colleges of education in Anambra State, Nigeria. The instrument used for data collection was the manufacturing accounts achievement test (MAAT). Five research questions and five null hypotheses were formulated to guide the study. Mean and standard deviation were used to answer the research questions while analysis of covariance (ANCOVA) was used to test the null hypotheses at 0.05 level of significance. The study found that in general, students taught manufacturing accounts using memorization strategy did not perform well in the pretest but students taught using peer tutoring strategy performed better in the posttest. Inspite of the significant difference in performance between the use of memorization and peer tutoring strategies, gender was not affected. Based on these findings, it was concluded that students learn faster and master skills better when they are allowed to participate actively and interact freely with their peers in the classroom. It was, therefore, recommended that accounting teachers in colleges of education should adopt peer tutoring in teaching manufacturing accounts. This will help to improve students' learning outcomes through active participation and free interaction among them in the classroom irrespective of their gender.

CHAPTER ONE

INTRODUCTION

Background of the Study

In colleges of education today, accounting is one of the courses that are taught to students. Accounting is a process of providing financial information about the financial transactions carried out by a business organization, so that decisions about the financial activities of the business could be ascertained by users. Oladele (2009) stated that accounting involves the maintenance of an organization's financial records of revenue and expenditure, as well as accounting for the flow of funds into and out of an organization. Accounting covers two broad areas – financial accounting and management accounting. For the purpose of this study, financial accounting is selected because it comprises manufacturing accounts (manufacturers' final accounts) as one of its aspects which this study is focusing on.

Financial accounting is a branch of accounting that is concerned with the reporting of financial information. American Accounting Association in Osuala (2004) defined financial accounting as the process of identifying, measuring, and communicating economic information. Asaolu (2005) added that financial accounting is used to report financial data of an organization to the users for objective assessment and decision-making.

Financial accounting gathers and summarizes financial data to prepare financial reports such as balance sheet and income statement for an organization's management, investors, lenders, suppliers, tax authorities, and other stakeholders. Financial accounting is, therefore, a specialized branch of accounting which keeps track of the financial transactions of a company. Okafor (2000) stated that the fundamental need for financial accounting is to reduce the various principal-agent problems, by measuring and monitoring the agent's performance and thereafter reporting the results to interested users.

The importance of financial accounting cuts across all sectors of the economy which include employees, general public, government, investment analysts, lenders,

managers/directors, shareholders and suppliers. Financial accounting helps employees to assess the potential for providing continued employment and levels of remuneration. It enables the general public to assess general employment opportunities, social, political and environmental issues, and to consider potential for investment. Financial accounting helps government in determining corporate taxation schedule. It enables investment analysts to determine investment potential for individuals and institutions with regard to past and future performance, strength of management as well as risk versus reward. Financial accounting enables lenders to assess the capacity and the ability of a company to service debt and repay capital (Okafor, 2000).

Financial accounting, as a skill course, seeks to achieve one of the goals derived from National Policy on Education (2004) which requires individuals to acquire appropriate skills and to develop mental, physical and social abilities as well as competencies as equipment for them to live in and contribute to the development of the society. Consequently upon this, the philosophy states that the quality of instruction at all levels has to be oriented towards inculcating the acquisition of competencies necessary for self-reliance.

Colleges of education form an integral part of the existing tertiary institutions in Nigeria. A college of education trains teachers for a minimum period of three years or a maximum period of five years. Its programme involves the teaching and learning of all basic courses which will enable students to acquire either further knowledge or develop skills in vocational and academic courses, or acquire knowledge that will enable students to perform well in the world of work. The accounting courses taught in colleges of education are principles of accounts, financial accounting, cost accounting and advanced financial accounting. The courses offered in colleges of education lead to the award of Nigerian Certificate in Education (NCE) on completion of a programme of study.

The admission requirements for Nigerian Certificate in Education (Business Education) programme include possession of either a Senior School Certificate (SSCE) or

GCE ‘O’ Level/NECO with credits in five subjects relevant to the course including English Language and Mathematics; or a Grade II Teacher’s Certificate (TC II) with credit or merit in three subjects including English Language, two of which must be relevant to the course (NCCE Minimum Standards, 2009).

Colleges of education in Nigeria are made up of male and female students in both state and federal colleges. There are two colleges of education in Anambra State, namely Nwafor-Orizu College of Education, Nsugbe (state-owned) and Federal College of Education (Technical), Umunze.

Financial data are processed into accounting information through the use of accounting principles and conventions. The accounting principles are known as generally accepted accounting principles (GAAP). They are the fundamentals which guide accountants in recording, appreciating and assessing accounting information as well as the preparation and interpretation of financial statements. The accounting system is proven, time-honoured, and its format is universally understood (Adebiyi, 2001). As a result, books of accounts prepared by accountants in one part of the world are easily understood by their counterparts in other parts of the world because the information system is based on principles that are widely accepted and globally used.

The general objectives of financial accounting as cited by Obi (2005) include: to develop a better understanding of business activities and to become familiar with papers and forms commonly used in business transactions; have an understanding and appreciation of the values and possibilities for record-keeping, personal needs, vocational preparation or preparation for further education; have understanding of assets, liabilities and proprietorship as well as to enable students interpret business situation correctly and to determine essential financial accounting traits which include accuracy, orderliness, neatness and responsibilities.

Financial accounting has different aspects which include knowledge of basic accounting principles; double entry; books of original entry; cash book; trial balance;

manufacturing accounts; partnership accounts; company accounts; et cetera (Okafor, 2000). This study will focus on manufacturing accounts aspect of financial accounting. The reason is that manufacturing accounts constitute one of the difficult aspects of financial accounting which students find difficult to attain high scores in as observed and shown in their performances in manufacturing accounts for a period of three years (see Appendix V page 103).

A pilot study conducted by the researcher in the two colleges of education in Anambra State confirmed a wide gap between the scores obtained and the scores expected of students in manufacturing accounts for the past three years (see Appendix V page 103). The students' consistent low scores in manufacturing accounts implies that the teaching strategy adopted such as memorization must have been unfavourable to enable them attain the expected scores. The researcher believes that students will perform better in manufacturing accounts if an alternative favourable strategy is adopted in teaching this particular aspect of financial accounting.

Manufacturing accounts is a financial statement that shows the cost of direct materials and labour as well as production overhead of a manufacturing organization. It enables a manufacturing organization to ascertain the cost of its production so as to determine the cost of sales for the purpose of maximizing profit (Oyetade, 2008).

Manufacturing accounts which constitutes manufacturers' final accounts have three segments: the factory manufacturing account (which ascertains the cost of production); the trading account (which shows cost of sales); the profit and loss account (shows the overall net profit or loss of the manufacturing organization); and the balance sheet (which shows the true financial position of a manufacturer at the end of a financial year (Okafor, 2000).

For students to really comprehend and assimilate manufacturing accounts as a topic, a learner-centered strategy has to be adopted. Learner-centered strategy comprises peer tutoring, active learning, cooperative learning, associative learning, et cetera while teacher-

centered strategy includes memorization, planned repetition, drill and practice, et cetera. For the purpose of this study, peer tutoring is selected as one of the strategies that can be adopted by both teachers and students so as to improve students' academic achievement in manufacturing accounts.

Achievement is the art of accomplishing or finishing a task. Students' achievement is something that students accomplish successfully, especially by means of exertion, skill, practice or perseverance. It is something that somebody succeeds in doing usually with effort (Anikweze, 2010). Achievement in the context of this study specially refers to academic attainment of students after completing a course. Achievement is both indicative and predictive. According to Anikweze (2010), achievement is indicative when it shows a student's level of success thus a student that scored an 'A' in a completed course is adjudged to have had a higher performance than a student that scored a 'B' in the same course. It is predictive when it is a criterion for determining the ability of a student to undertake another task such as the case of a student who is adjudged able to offer a course because of a high score in a previous course.

Teaching is an art that is geared towards shaping the behaviour of a learner. Every teacher must have an intention, and the achievement of the intention is what qualifies one as a teacher. One cannot be a good teacher until his intention for doing what he is doing is ascertained. It is because of this arduous task of helping one to learn that many models, methods, and instructional strategies and designs have been innovated. It is a matter of choice by teachers to adopt whatever model, method or instructional strategy that suits a particular content. As more teachers emerge, more strategies of instruction emerge. This development has given rise to the use of peer tutoring as a strategy of instruction instead of memorization.

Memorization is the process of establishing information in the memory. Heritage Dictionary of the English Language (2009) explained memorization as the act of learning

something carefully so that a person can remember it exactly. The use of memory to teach is known as memorization strategy of teaching. Maji (2012) buttressed that memorization strategy involves the use of information stored in the memory, brain, heart and mindset to teach without lesson notes and textbooks. In memorization strategy, students select the central idea of a passage and summarize it as a keyword. Next, they recode other important facts to the keyword. They recall the keyword when needed to retrieve the related information.

Peer tutoring, according to Topping (2005), is the acquisition of knowledge and skills through active helping and supporting among learners of equal status/level. According to the author, peer tutoring involves people from similar social groupings who are not professional teachers helping one another to learn. Peer tutoring may consist of students of the same learning level working together or students of varying learning levels working together. This can easily be implemented even in a classroom of diverse learners. Kourea, Cartledge & Musti-Rao (2007) stated that by implementing peer tutoring as an instructional strategy, classroom teachers are able to individualize instruction for each of their students and give all the students in the classroom the opportunity to be actively engaged in learning at the same time. Peer tutoring can be useful in a classroom for a number of reasons.

One of the reasons as given by Kourea, Cartledge, & Musti-Rao (2007) is that it allows teachers to provide all students the opportunity to be actively engaged in learning at the same time while each student work on his/her own specific level of need. This is possible even if there is only one teacher in the classroom. Another reason according to Miller, Topping, &Thurston (2010) is that peer tutoring improves students' self-reliance. Students taught with peer tutoring rely mostly on themselves for learning instead of solely relying on their teachers. Topping (2005) added that peer tutoring increases students' positive attitudes on school and learning in general.

Apart from increasing individual attention and student engagement, Kourea et al (2007) stated that peer tutoring has also been noted to be among the most cost-effective of learning strategies. They further explained that peer tutoring gives teachers the opportunity to maximize their instructional influence on the classroom as well as to provide individualized instruction.

Brewer, Reid &Rhine (2003) reported that one-on-one instructional procedures have been viewed as highly effective for students with diverse needs. According to them, in most public school classrooms, one teacher is expected to provide academic instruction to a group ranging in size from fifteen to forty students. As they further discussed, in a classroom with this many students, as is the case in our colleges of education, it can be difficult or nearly impossible to provide daily one-on-one instruction for each student due to limited class time. For this reason, it becomes necessary to find a more efficient way of addressing all students' academic needs; hence the adoption of peer tutoring in place of memorization strategy to help improve students' achievement in manufacturers' final accounts in colleges of education in Anambra State, Nigeria.

Statement of the Problem

The learning outcome of every student majorly depends on the type of teaching strategy employed by the teacher during instruction. Memorization strategy adopted in teaching manufacturing accounts in the two colleges of education in Anambra State is teacher-centered as a result of this, students were not able to achieve higher in manufacturing accounts for the past three years (see Appendix V page 103).

Manufacturing accounts involve skill that cannot be mastered by mere memorization of basic rules. As stated by Sinclair (2005), mastering a skill course requires active involvement of learners in the teaching and learning process. The lack of in-depth knowledge acquired by students in manufacturing accounts as a result of deficient teaching strategy adopted by teachers negatively affect these students by making them to be neither

employable by relevant manufacturing organizations nor be self-employed. In order to find a lasting solution to this existing problem, it becomes necessary to introduce peer tutoring as an alternative strategy that can bring about positive improvement in students achievement in manufacturers' final accounts in colleges of education in Anambra State, Nigeria.

Purpose of the Study

The general purpose of this study is to compare peer tutoring strategy with memorization strategy on students' achievement in manufacturers' final accounts in colleges of education in Anambra State, Nigeria.

Specifically, the study seeks to determine the:

1. mean scores of students in manufacturing account using peer tutoring strategy as against memorization strategy;
2. mean scores of students in trading account using peer tutoring strategy as against memorization strategy;
3. mean scores of students in profit and loss account using peer tutoring strategy as against memorization strategy;
4. mean scores of students in balance sheet using peer tutoring strategy as against memorization strategy;
5. mean scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies.

Significance of the Study

The findings from this study will be of great benefit to National Commission for Colleges of Education (NCCE), Administrators of Colleges of Education, Accounting teachers, students, and researchers.

The findings from this study will be of great relevance to the National Commission for Colleges of Education curriculum. The body will find peer tutoring strategy relevant enough to be incorporated into its new curriculum designs.

The findings of this study will be useful to the Administrators of Colleges of Education as they will need to have a profound understanding of peer tutoring strategy on students' achievement. The knowledge gained from such awareness will be utilized in planning for budgetary provisions of facilities and staff development for the training and retraining of teachers in order to enhance learning.

Accounting teachers in colleges of education will benefit from these findings as they will have first-hand information on peer tutoring strategy on students' achievement in manufacturing accounts. They will thus face the challenge of knowledge update through seminars, workshops, in-plant training of the desired strategies of instructional delivery in order to keep pace with the recent technological development.

The findings from this study will help to motivate students who will be spurred to greater achievements in financial studies. The findings will also be useful to researchers who may want to draw reference from this study as input to their review of literature in similar areas of study. Finally, the study will be of great benefit to the society that will enjoy the services of accounting graduates who will be well-equipped in terms of skill through the use of peer tutoring.

Research Questions

The study will be guided by the following research questions:

1. What are the mean scores of students taught manufacturing account using peer tutoring strategy and those taught using memorization strategy?
2. What are the mean scores of students taught trading account using peer tutoring strategy and those taught using memorization strategy?
3. What are the mean scores of students taught profit and loss account using peer tutoring strategy and those taught using memorization strategy?
4. What are the mean scores of students taught balance sheet using peer tutoring strategy and those taught using memorization strategy?

5. What are the mean scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies?

Hypotheses

The following null hypotheses will be tested at 0.05 level of significance:

HO_1: There is no significant difference in the mean scores of students taught manufacturing accounts using peer tutoring strategy and those taught using memorization strategy.

HO_2: There is no significant difference in the mean scores of students taught trading account using peer tutoring strategy and those taught using memorization strategy.

HO_3: There is no significant difference in the mean scores of students taught profit and loss account using peer tutoring strategy and those taught using memorization strategy.

HO_4: There is no significant difference in the mean scores of students taught balance sheet using peer tutoring strategy and those taught using memorization strategy.

HO_5: There is no significant difference in the mean scores of male and female students taught manufacturers' final accounts using peer tutoring strategy and those taught using memorization strategy.

Delimitation of the Study

The study was delimited to the comparison of peer tutoring and memorization strategies on the achievement of students in manufacturers' final accounts (manufacturing accounts). The study was further delimited to the three segments of manufacturing accounts namely trading accounts, profit and loss account and balance sheet in financial accounting.

CHAPTER TWO

REVIEW OF LITERATURE

The literature related to this study is reviewed under the following sub-headings:

Conceptual Framework:

- Accounting
- Financial Accounting
- Manufacturing Accounts
- Teaching Strategies
- Achievement
- Memorization Strategy
- Peer Tutoring

Theoretical Framework:

Learning Theories

- Social Interdependence Theory (by Kurt Koffka)
- Cognitive Developmental Theory (by Jean Piaget)
- Behavioural Theory (by Vygotsky)

Related Empirical Studies

Summary of Literature Reviewed

Conceptual Framework:

Accounting

Accounting is a process of providing financial information about the financial transactions carried out by a business organization, so that decisions about the financial activities of the business could be ascertained by users. Oladele (2009) stated that accounting involves the maintenance of an organization's financial records of revenue and expenditure, as well as accounting for the flow of funds into and out of an organization. Accounting covers two broad areas – financial accounting and management accounting. For the purpose of this study, financial accounting is selected because it comprises manufacturing accounts (manufacturers' final accounts) as one of its aspects which this study is focusing on.

Financial Accounting

Financial accounting is a branch of accounting that is concerned with the reporting of financial information. American Accounting Association in Osuala (2004) defined financial accounting as the process of identifying, measuring and communicating economic information. Asaolu (2005) added that financial accounting is used to report financial data of an organization to the users for objective assessment and decision making.

Oyetade (2008) defined financial accounting as a process concerned with recording data, classifying and summarizing data, and communicating what has been learnt from the data. Akintelure and Oguobi (2003) maintained that financial accounting is the recording, classifying and summarizing of financial transactions or events in terms of money or money's worth, and reporting the result to management and other users of accounting information.

Financial accounting gathers and summarizes financial data to prepare financial reports such as balance sheet and income statement for an organization's management, investors, lenders, suppliers, tax authorities and other stakeholders. To this end, financial accounting is, therefore, a specialized branch of accounting which keeps track of the financial transactions of a company. Supporting this fact, Okafor (2000) added that the fundamental need for financial accounting is to reduce the various principal-agent problems, by measuring and monitoring the agent's performance and thereafter reporting the results to interested users.

Financial accounting is statutory and is prepared on historical basis and reports to parties external to the organization. Omorokpe (2006) agreed that financial accounting is also known as historical cost accounting, and added that financial accounting is the process of collecting, recording, summarizing, presenting financial transactions, reporting and analyzing/interpreting of accounts to assist the users of financial statements in various decision making situations. Adams (2002) noted that on the basis that what happened in the past should be a guide to the future, previous year's published financial statements are analyzed and evaluated in order to form an opinion on the trend which will in turn assist in deducing future

results. Adams further opined that the traditional function of financial accounting is to record business transaction, prepare an operating or income statement (income and expenditure or profit and loss account) which are subject to accounting conventions and limitations, and to draw up a financial position statement (balance sheet) at the end of a given period. Oyetade (2008) observed that modern day accounting functions go further to analyze, evaluate and interpret financial statements for decision making.

Objectives of Financial Accounting

The general objectives of financial accounting as cited by Obi (2005) are to develop (1) a better understanding of business activities and to become familiar with papers and forms commonly used in business transactions (2) an understanding and appreciation of the values and possibilities for record-keeping, personal needs, vocational preparation or preparation for further education (3) understanding of assets, liabilities and proprietorship as well as to enable the students interpret business situations correctly and (4) essential financial accounting traits which include accuracy, orderliness, neatness and responsibilities.

Ekwere (2005) asserted that financial accounting has as its primary objectives, the measurement of economic effect and communication of the economic results to the external decision makers. Other general objectives of financial accounting as given by Ekwere are to provide (a) reliable financial information of an organization (b) information that assists in estimating the earning potential of an enterprise (c) reliable information in assessing management ability (d) the external and internal users with information for predicting, comparing and evaluating an organizational earning power and (e) to disclose information that is relevant to financial statement users.

Importance of Financial Accounting

Agara (2005) stated that financial accounting is important to employees, general public, government, investment analysts, lenders, managers/directors, shareholders and suppliers. He further explained that financial accounting helps employees to assess the

potential for providing continued employment and assess levels of remuneration. Adebiyi (2001) added that financial accounting enables the general public to assess general employment opportunities, social, political and environmental issues, and to consider the potential for investment.

Financial accounting helps government in determining its value added tax (VAT) and corporate taxation, government statistics, grants and financial assistance, monopolies and mergers (Agara (2005). According to Agara, financial accounting enables investment analysts to determine investment potentials for individuals and institutions with regard to past and future performance, strength of management as well as risk versus reward. He also added that financial accounting enables lenders to assess the capacity and the ability of a company to service debt and repay capital.

Longe and Kazeem (2006), in their own views, stated that financial accounting is important in that it (i) provides information for decision making (ii) provides permanent records for all transactions (iii) helps to determine the profitability of a business concern (iv) provides records for tax purposes (v) helps in preventing fraudulent activities (vi) provides information on assets and liabilities, and income and expenditure.

Generally Accepted Accounting Principles (GAAP)

Financial data are processed into accounting information through the use of accounting principles and conventions. Adebiyi (2001) defined a principle as a broad general law or rule adopted or professed as a guide to action, a settled ground or basis of conduct or practice.

Broad general rules developed through years of practice are, however, available to the accountant to help him exercise the much needed judgment in the application of accounting concepts, methods and bases. To this end, Ama (2000) stated that accounting principles are broad rules adopted by the accounting profession as guides in measuring, recording, and

reporting the financial affairs and activities of an organization or entity. These principles are referred to as Generally Accepted Accounting Principles (GAAP).

Generally Accepted Accounting Principles as simply stated in NASB (2005) are the conventions, rules, procedures and broad guidelines adopted in the preparation and presentation of financial statements in a given jurisdiction, for example, Nigeria. The principles include broad ideas of measurement and classifications, as well as detailed rules and procedures used by accountants in preparing and presenting accounting reports. The rules followed by accountants in the preparation of financial statements are contained in the accounting standards issued by the standard-setting body in a given jurisdiction. In Nigeria, such standards are issued by the Nigerian Accounting Standards Board established in September 1982 and amended in 2005.

Some of these Generally Accepted Accounting Principles include principles of: (a) substance over form (b) objectivity (c) fairness (d) materiality (e) prudence (f) full disclosure (g) double entry.

A. Principle of Substance Over Form

Different businesses or industries require different accounting formats and peculiar treatments. The same applies to different types of organizations. Hence, there are the Companies and Allied Matters Act of 1990 as amended in 2004 and the Banks and Other Financial Institutions Act (BOFIA) of 1991 that regulate the businesses and accounting for companies and financial institutions respectively. However, in keeping the accounts of organizations, the accountant appreciates the peculiar nature of the respective business instead of just what the law dictates. Thus, Ama (2000) reported that accounts of organizations are presented in accordance with the substance and financial reality and not necessarily or simply with the legal forms.

B. Principle of Objectivity

This is, in other words, called the principle of objective evidence. It is the preference of objective evidence to subjective judgment in determining the amount used in recording events in the account. According to Adebiyi (2001), the principle connotes independence of judgment on the part of the accountant preparing the financial statements. The objective judgment of the accountant is normally vouched by the source documents – receipts, invoices, et cetera. Adebiyi added that the result is that accounts prepared by independent practitioners from those documents will produce essentially the same result. He also stated that the principle of objectivity underlies the usefulness of accounting information. It makes the product of the accounting information system to be devoid of the whims, fancies and idiosyncrasies of either the organization in general or the accounting staff in particular.

C. Principle of Fairness

This principle helps to emphasize the principle of objectivity. Stressing this point, Agara (2005) maintained that the principle of fairness in particular states that all parties interested in the accounting information must be borne in mind while preparing the accounts. Having taken the interest of all users at heart, Agara explained that the accounts are said to have presented a fair view of all transactions of the organization, as well as a fair view of the position of the assets and liabilities at a given date. Once the principle of fairness has been followed, no party is favoured at the detriment of others.

D. Principle of Materiality

Information is said to be material if it can affect the decision to be taken. Evidence is immaterial to the extent that it will not sway judgment to any direction. Therefore, the principle of materiality in accounting presupposes that only material items are accorded their strict accounting treatment (NASB: SAS 1, 2005:9). For instance, taxes on accrued wages may not be strictly matched against revenues of the same period because its effect is seen not to be material enough. This negates the matching concept but nevertheless does not affect

accurate reporting since the difference in taxes on accrued wages of different periods may be negligible.

In short, a strict adherence to any accounting principle is not required if the lack of adherence does not materially affect the financial statements (Igboke, 2002). In other words, failure to adhere to this principle is only considered wrong when the error or mis-statement resulting there-from is large enough to influence a financial statement reader's understanding of a given situation.

E. Principle of Prudence

This principle is also called the principle of conservatism. According to Igboke (2002), conservatism principle is the accounting principle that guides accountants to select the less optimistic estimate when two estimates of amounts to be received or paid are about equally likely. Igboke stated further that accountants are by this principle supposed to be pessimistic in anticipating profits but very eager in recognizing all losses no matter how far-fetched they may be. Thus, only profits that have actually been earned are recognized and recorded. But losses that are only contingent are equally immediately recognized and recorded.

Igboke gave instances of the application of the principle of prudence to include (i) recognition of the lower-of-cost or market value in stock pricing (ii) provision of contingent liabilities and losses e.g. provision for bad debts (iii) creation of reserves (but not secret reserves) and (iv) in all choice of an alternative accounting that would avoid favourable exaggeration in accounting reports but result in the least favourable immediate result.

F. Principle of Full Disclosure

This is the accounting principle that requires companies to disclose all information of a material nature relating to the financial position and operating results of the company for which they were prepared (NASB: SAS 2, 2005: 12). The principle works in close consonance with the materiality principle. Much as the principle does not require the

disclosure of all or every information, it demands as a matter of compulsion, the disclosure of all material information.

Any material information must be disclosed both fully and completely. The disclosure needs not be detailed. It only needs to be such that will enable the reader of the records to appreciate completely the current position (financial) of the entity concerned. Following the disclosure principle, NASB (SAS 2) enumerates both the general and specific disclosures. These have been found to be complementary to disclosure requirements of the Companies and Allied Matters Act of 2004 and in accordance with the requirements of the International Accounting Standards No. 5 - Information to be Disclosed in Financial Statement.

G. Principle of Double Entry

This principle presupposes the double entry accounting system. According to Asaolu (2005), the principle dictates that each transaction affects and is recorded in two or more accounts with equal debit and credit entries. The principle of double entry, therefore, ensures that each transaction affects more than one item in the accounting equation such that inspite of any transaction and the number of such transactions, the equation must always balance.

Asaolu also added that the principle of double entry engenders the modern accounting system which is based on the accounting equation of Assets = Liabilities + Owners Equity. Essien (2004) in his own view, agreed that this principle subsumes all classes of accounts – personal, non-personal, real and nominal – into the equation and presents each in a T-form or T-account. One side of the T-account is called the debit side while the other side is the credit side. Essien added that the T-account goes further to prescribe that the account which receives value be debited while the account that gives out value be credited.

Purpose of Generally Accepted Accounting Principle (GAAP)

The Nigerian Accounting Standards Board (2005) provides that adherence to generally accepted accounting principles serves five important purposes as follows:

1. It increases the ability of users of financial statements to understand the accounting report issued by different reporting entities.
2. It provides reasonable degree of comparison between financial reports presented by entities since they adopt a standard framework or guidelines.
3. It increases the confidence of investors, markets, and indeed the general public, which the financial statements issued by a reporting entity faithfully represent its transactions.
4. Preparers of financial statements have a set of guidelines which can be readily referred to in accounting and reporting their financial transactions.
5. External auditors need GAAP to guide them in reporting on the truth and fairness or otherwise of the financial transactions of different entities.

Sources of Generally Accepted Accounting Principles in Nigeria

The sources of GAAP in Nigeria as stated by Alexander (2004) include:

(i) Companies and Allied Matters Act, CAP C20 LFN 2004.

(ii) Insurance Act 2003

(iii) Banks and Other Financial Institutions Act 1991.

(iv) Prudential guidelines issued by the Central Bank of Nigeria.

(v) Security and Exchange Commission and Stock Exchange rules and regulations.

(vi) Accounting standards issued by the Nigerian Accounting Standards Board (NASB).

(vii) Accounting standards issued by the International Accounting Standards Board constitute a secondary source of GAAP in Nigeria.

(viii) Pension Reforms Act 2004

Financial accounting has different aspects. According to Okafor (2000), some of these aspects of financial accounting include among others: knowledge of basic accounting principles, double entry, books of original entry, cash book, trial balance, final accounts, manufacturing accounts, partnership accounts, company accounts, et cetera. For the purpose of this study, manufacturing account is selected and explained further.

Manufacturing Account

This is one of the aspects of financial accounting. It is a financial statement prepared by a manufacturing organization which shows the cost of direct materials and labour as well as production overhead of the organization. Manufacturing account enables a manufacturing organization to ascertain the cost of its production in order to determine the cost of sales for the purpose of maximizing profit (Oyetade, 2008).

The importance of manufacturing account cuts across real-life situations and all sectors of the economy which include government, firms, individuals, investors, et cetera. All these entities will always want to maximize profit in one way or another in their transactionary endeavours. For instance, government engages in the production of oil and will therefore, be interested in knowing the amount of revenue generated on the sale of its refined oil in comparison with the cost of producing each barrel of oil. This is made possible through the availability of financial information to the government by the parties concerned. Likewise firms that engage in the production of goods and services will be interested on the profits made from the sale of their goods and services as against cost of producing the goods and services.

Manufacturing account has three segments namely: the factory manufacturing account, the trading account, the profit and loss account and the balance sheet (Okafor, 2000). The author added that the trading account takes care of raw materials used in production, prime cost of production and factory overheads (or expenses) to arrive at cost of production and gross profit on manufacturing and trading. The profit and loss account takes care of the administrative and distribution expenses as well as other financial charges so as to arrive at a net profit or loss as the case may be. The balance sheet finally shows the financial position of the manufacturing organization at the end of the accounting period.

It is pertinent to note that a balance sheet is not an account but a statement that shows the financial position of a business at a particular period. Longe and Kazeem (2006) agreed

that a balance sheet is simply a statement that presents the summary of assets and liabilities in a well arranged form so that the financial and true position of business activities may be clearly ascertained. The authors added that a balance sheet shows the balances remaining in the books of accounts after preparing the trading, profit and loss accounts. A balance sheet is divided into assets and liabilities. Assets refer to what the business owned while liabilities refer to what the business owed.

Teaching Strategies

Teaching is an art that is geared towards shaping the behaviour of a learner. It is a profession which presents a number of challenges to the professionals in the field. This is so because teaching deals with human beings that are usually fraught with problems. As a result of the numerous problems encountered by professionals, teachers are constantly searching for new and innovative ways of making the career effective.

The nature of learning process requires certain conditions under which a desired goal is attained. These conditions that permeate effective teaching and learning are the teaching strategies adopted in a learning process. Every subject matter determines the strategy to be used, also there is no particular strategy that can be adopted from the beginning of a lesson to the end. Teachers rather use several strategies, changing smoothly from one strategy to another as and when appropriate, depending on the instructional delivery stage into which he/she gradually moves on.

Some teaching strategies often used by teachers in teaching manufacturing accounts include the following:

Planned Repetition

This is a teaching strategy employed by a teacher to recall and refresh the mind of learners on the important concept of the lesson. It involves repeating an instruction and/or skills until the learner gains actual perfection (Ogwo and Oranu, 2006). Repetition will enable students to understand a lesson better. They further suggested that instruction should

be repeated until it is mastered. The teacher should get the students to repeat a particular task or skill until the skill has been learnt and mastered.

Explanation

Ogwo and Oranu (2006) pointed out that in order to make teaching clear to students, the teacher relies greatly upon explanation. Explanation is used in conjunction with all teaching methods, and it should start with what the students know and then proceed to what they do not know.

Drill and Practice

According to Obi (2005), drill and practice are indispensable to a business teacher whose duties include aiding the leaner to achieve a level of proficiency in the study of some business subjects like accounting, keyboarding and so on. According to her, drilling is used when memorizing important facts, making important mental or motor skills automatic, memorizing theories, principles or rules, and developing and fixing habits. Practice is used when specific facts and skills drilled need to be applied in more meaningful situations, and learned abilities need to be polished or refined to perfection. Drill and practice are used in this study to teach accounting theories.

Achievement

Achievement is the art of accomplishing or finishing a task. Students' achievement is something that students accomplish successfully, especially by means of exertion, skill, practice or perseverance. It is something that somebody succeeds in doing usually with effort (Anikweze, 2010). Achievement in the context of this study specifically refers to academic attainment of students after completing a course.

Achievement is both indicative and predictive. Anikweze (2010) stated that achievement is indicative when it shows a student's level of success in a course. A student that scored an 'A' in a completed course is adjudged to have had a higher performance than a student that scored a 'B' in the same completed course. He added that achievement is

predictive when it becomes a criterion for determining the ability of a student to undertake another task such as the case of a student who is adjudged able to offer a course because of a high score obtained in a previous course.

The achievement of students in manufacturing accounts in colleges of education in Anambra State has been low for some years now (see Appendix V page 103). Based on the existing achievement of students in manufacturing accounts which the researcher collected from the two colleges of education, it was assumed that the reason for the persistent low achievement might be the adoption of unfavourable teaching strategy. Manufacturing accounts involve skill that cannot be mastered by mere memorization of basic rules. Mastering the topic requires active involvement of learners in the teaching and learning process. The need to find alternative teaching strategy that can help students attain optimum scores in manufacturing accounts gave rise to the introduction of peer tutoring.

Memorization Strategy

Memorization is the process of establishing information in the memory. Heritage Dictionary of the English Language (2009) explained memorization as the act of learning something carefully so that a person can remember it exactly. The use of memory to teach is known as memorization strategy of teaching. Maji (2012) buttressed that memorization strategy involves the use of information stored in the memory, brain, heart and mindset to teach without lesson notes and textbooks. In memorization strategy, students select the central idea of a passage and summarize it as a keyword. Next, they recode other important facts to the keyword. They recall the keyword when needed to retrieve the related information.

Peer Tutoring

According to Topping (2005), peer tutoring is the acquisition of knowledge and skills through active helping and supporting among learners of equal status or level. According to Topping, peer tutoring also involves people from similar social groupings who are not

professional teachers helping each other learn while learning themselves. Kourea, Cartledge and Musti-Rao (2007) reported that peer tutoring may consist of students of the same learning level working together or students of varying learning levels working together. This can easily be implemented even in a classroom of diverse learners. Kourea et al (2007) added that by implementing peer tutoring as a teaching strategy, classroom teachers are able to individualize instruction for each of their students, giving all the students in the classroom the opportunity to be actively engaged in learning at the same time.

Nnaka (2006) opined that peer tutoring is an instructional strategy in which students in their groups under the guidance of a teacher work together through a given instructional assignment with brilliant student as a peer tutor, providing assistance and instruction to others. The author added that peer tutoring is fruitful and successful because hierarchical atmosphere in the classroom is removed and cordial, friendly and free atmosphere that facilitates learning is obtained. During peer tutoring, there is no more fear of criticism in the students, blame or punishment from the teacher when they are not coping as the teacher wants.

Igbo (2004) sees peer tutoring as a teaching process whereby a student who has proficiency in a skill teaches another student under the teacher's supervision. It is a process of chain teaching whereby the teacher shows a student how to perform a skill and the student in turn trains a second student on the same or similar skill. This means that for effectiveness of the teaching, the teacher plans the peer tutoring. Consequently, peer tutoring promotes the performance of the teacher and the learner.

Lipponen (2002) defined peer tutoring as the ability of peers to work collaboratively as a team to achieve the set learning goals. Cohen and Sampson (2001) portray peer tutoring as a kind of cooperative learning strategy with a two-way reciprocal learning activity. Lipponen (2002) summarized that peer tutoring can enhance learning by (a) allowing students represent their own and others ideas and share their expertise in text (b) allowing sharing discourse spaces and distributed interaction that offer multiple perspectives for students with varying

knowledge and competencies, which can offer greater opportunities to share and solicit knowledge. Moreso, peer tutoring makes provision for constructive reasoning among peers.

Forms of Peer Tutoring

Peer tutoring strategy can be adopted through any one of the following forms:

(1) Discussion Groups

It is common to supplement large class lectures by discussion groups. Mostly, these events are directed by a teaching assistant who is further advanced in the course of study than those enrolled in the course. According to Sinclair (2005), the purpose of such discussion groups is multiple: to provide a link between the professional teacher in charge of the course and the large student body; to assure comprehension of the material presented in the lecture and to allow students to ask questions, receive immediate feedback, voice their opinion, et cetera. The author opined that it is also believed that having a teacher who is close to the students in age and educational attainment will be beneficial for the learners, as they may be more ready to ask questions and admit to not having understood something than in the presence of their professional teacher.

(2)The Proctor Model

This form of peer tutoring strategy is also called Personalized System of Instruction (PSI). In this form, the work of the proctor or student-teacher consists of working individually with the students taking a course. The proctor assists students in mastering the course material by administering tests on the numerous units they have to work through individually and by giving constructive feedback on the test results. Ideally, it is hoped that a proctor becomes a tutor, a counselor, an advisor, and in most cases, a good friend of the students with whom he works (Sinclair, 2005).

The proctor's responsibilities towards the course instructor are of equal importance and include an obligation to make each of his students excellent if possible; and to provide feedback to the instructor about the progress of his students and information about aspects of

the course materials and course procedures which are presenting difficulties for the teachers (Landis, 2000). Proctors practice and rehearse the skills they have acquired during the preceding years of study, while at the same time making a significant contribution in rendering impersonal instruction personal, and helping to assure mastery of the subject by all course participants (Sinclair, 2005).

(3) The Learning Cell

The learning cell, according to Sinclair (2005), refers to a cooperative form of learning in pairs in which students alternate asking and answering questions on commonly read materials. Similar to proctor model, the learning cell must be highly structured for effective learning to occur.

Sinclair further stated that to prepare for the learning cell, students read an assignment and write questions dealing with major points raised in the reading proper or other related material. At the beginning of each class meeting, students are randomly assigned to pairs and one partner A beings by asking partner B his first question. After having answered and perhaps having been corrected or given additional information, B puts his first question to A, and so on. During this time, the cell professional teacher goes from pair to pair, giving feedback, asking and answering questions where necessary. For the purpose of this study, discussion groups and proctor model are adopted in teaching manufacturing accounts for optimum achievement of students in the topic.

Peer Tutoring Approaches

Many institutions of learning now promote instructional approaches involving active learning that present opportunities for students to fully participate in the learning process. In peer tutoring, certain approaches must be employed and followed to enable students have the freedom to determine how they might proceed with their learning and what they learn within a particular framework. Any approach should make provision for students to direct their learning process and should focus on the commitment of students to learning.

Cohen and Sampson (2001) provided the most widely used approaches in peer tutoring to include learning partnerships, study groups, workshop planning groups and learning exchanges. They added that the first two approaches emphasize students providing support for their peers, although they may be engaged in specific learning projects. The last two approaches involve the students in planning and presenting to their peers, topics relevant to the course. Using these approaches, students are required to consider issues that arise about learning in groups. Peer tutoring is intended to create study groups that would be able to assist each other through course work.

The use of peer tutoring strategy in manufacturing accounts is essentially based on small groups working together in manufacturing accounts. The purpose of peer tutoring strategy in teaching manufacturing accounts is to reflect the content of the topic taking into consideration the mixed background of the students.

To facilitate successful peer tutoring, Christudason (2003) presented the following learning approaches:

(i) Buzz Groups

By this approach, a large group of students is subdivided into four or five students to consider the issues surrounding a problem. After about twenty minutes of discussion, one member of each sub-group presents the findings of the sub-groups to the whole group.

(ii) Affinity Groups

Here, a group of four or five students are each assigned particular task to work on outside formal contact time. At the next formal meeting with the professional teacher, the sub-groups or a group representative presents the sub-group findings to the whole tutorial group.

(iii) Solution and Critic Groups

One sub-group is assigned a discussion topic for a tutorial and the other groups constitute critics who observe, offer comments and evaluate the sub-group's presentation.

(iv) Teach-write-discuss

At the end of a unit of instruction, students have to answer short questions and justify their answers. After working on the questions individually, students compare their answers with each other's.

Boud (2002) reported that other peer tutoring approaches include critique sessions, role-play, debates, case study and integrated projects. These approaches, he added, are effective in stirring students' enthusiasm and therefore, encourage peer tutoring.

For peer tutoring to be successfully carried out, the teacher must ensure that the entire group experiences positive interdependence, face-to-face interaction, group processing and individual and group accountability. Positive interdependence emphasizes the importance and uniqueness of each group member's efforts while important cognitive activities are at work. As students communicate with one another, they assume leadership roles, acquire conflict-managing skills, discuss and clarify concepts which help to enhance their learning outcomes.

Gwee (2003) posited that peer relationship depicts intimacy that subsists between peers which enables them help each other to develop skills and knowledge, and assist each other to improve the quality of the work they are asked to perform. Gwee reported that most academic work of peers are impaired when there is no good peer relationship. Peer tutoring is only facilitated when peers are in good mood and have a common team spirit to work together.

Relationships between people affect learning only as much as people reinforce each other in academic environment. For instance, if the peers encourage education and learning, then the individual student within the group will value learning. Students in peer groups that do not value education lack the stimulation and reinforcement needed to encourage personal learning.

Albert Bandura's social learning theory speaks precisely on the human interactions involved in learning. Observation learning is based on learning by watching, then modeling

or acting similarly to others. If a student views and works with people who appreciate learning, then the student will as well engage in learning and may even work harder.

Gwee (2003) also reported that peers with positive attitudes and behaviours towards education will teach each other set goals that will include opportunities to learn and achieve the goals. If peer models do not convey a positive attitude to learning, the students observing these models will not prioritize learning in their own lives.

As stated by McCaslin and Good (1996), learning is socially situated, the achievement of the student is a small part of who the student is and what the student does. The responsibilities of education include helping students to recognize their own place as social contributors and maximizing the resources available to them through interpersonal relationship. Students are not isolated in pursuit of knowledge. They are social beings who need to interact and establish contacts. The influence of peers and students' relationship can be understood as function of student's age, motivation, learning and classroom opportunities.

Benefits of Peer Tutoring

Peer tutoring can be useful in a classroom for a number of reasons. Kourea, Cartledge and Musti-Rao (2007) reported that peer tutoring has been shown in multiple cases to increase student academic achievement. They also added that peer tutoring is beneficial to teachers because it allows teachers to provide all students the opportunity to be actively engaged in learning at the same time, each student working on his/her own specific level of need, even if there is only one teacher in the classroom.

Peer tutoring helps to improve students' self-esteem (Miller, Topping and Thurston, 2010). The authors added that peer tutoring can be beneficial to both low and high achievers, and gifted students. Any form or approach of peer tutoring adopted in classroom enables the interest of low achievers, high achievers, or gifted students to be fully represented in the group concerned. As discussed by Topping (2005), peer tutoring has been found to increase students' positive attitudes to school and learning. Students are saved the embarrassment of

either being criticized or punished if they are not coping as expected by the professional teacher.

Apart from increasing individual attention and student engagement, Kourea, Cartledge and Musti-Rao (2007) observed that peer tutoring has been noted to be among the most cost-effective of learning strategies. The authors further explained that peer tutoring gives teachers the opportunity to maximize their instructional influence on the classroom as well as to provide individualized instruction.

Brewer, Reid and Rhine (2003) noted that one-on-one instructional procedures have been viewed as highly effective for students with diverse needs. In most public school classrooms, one teacher is expected to provide academic instruction to a large group of students. In this case, it can be difficult or nearly impossible to provide one-on-one instruction for each student due to limited class time. Peer tutoring strategy makes it possible for a teacher to manage such a large class effectively.

Brewer, Reid and Rhine (2003) further stated that if there are yet significant differences in the skills and academic repertoires of the students in the class, a single common instructional method such as lecture may not efficiently meet the academic requirements of individual students. For this reason, it is a necessity to adopt a more efficient strategy that can address all students' academic needs, and peer tutoring strategy is an efficient strategy that can allow a teacher to do so. The authors further stated that by utilizing peer tutoring strategy in the classroom, teachers will ideally be able to teach more effectively.

Peer tutoring may involve students of similar or differing academic capabilities working together. In cases where one student is performing academically higher than his/her peer, Topping (2005) noted that, not only the tutee, but the tutor also receives benefits through peer tutoring. Topping further gave examples of some of the benefits the tutor receives as a result of peer tutoring to include (a) reinforcement of the tutor's own knowledge and skills (b) building self-confidence and self-esteem and (c) development of a sense of

responsibility. He concluded that peer tutoring provides higher academic achievement for all members of the group.

Peer Tutoring Strategy as Compared with Memorization Strategy for Optimum Achievement in Manufacturing Accounts

A teacher is the key actor in learning. This is because he/she is responsible for adopting the best strategy of instruction that will enable him/her to achieve the set goals and objectives. For an effective teaching and learning of manufacturing accounts, the teacher needs to adopt relevant and appropriate strategy of teaching to enhance optimum achievement of students in the topic.

Memorization strategy is good if illustrations are used to strengthen it, but peer tutoring strategy is more ideal as it saves the teacher valuable time in teaching. Cohen and Sampson (2001) buttressed this point by stating that peer tutoring which permits students' interaction among themselves may generate good results that lead to high achievement of students without taking much time of the professional teacher. They further noted that the interactions among peers in the classroom are normal and essential part of the learning process that influences lifelong learning habit of students.

Boud (2002) agreed in his own view that students learn a great deal by explaining their ideas to others and by participating in activities in which they can learn from their peers. Christudason (2003) viewed peer tutoring as a kind of cooperative learning that enhances the value of student-student interaction, and results in various advantageous learning outcomes. Gwee (2003) said that peer tutoring involves a procedure that enables each member in the group to participate both as a tutor and a tutee.

Kirschner, Sweller and Clark (2006) observed that providing guidance in learner-centered instructional strategies is necessary if effective learning is to occur. Sinclair (2005) stated that today, information technology has provided students with excellent opportunities to learning without requiring a teacher to transmit the available information. Boud (2002)

added that students are essentially involved in searching for, collecting, analyzing, evaluating, integrating and applying information to complete an assignment or solve a problem.

Uwameiye and Ugiegbaen (2006) asserted that reliance on traditional teaching strategy such as memorization has been criticized as moulding students into passive recipient of information transmitted by the teacher thereby making them highly dependent on teachers for their learning needs. Any instructional strategy that involves active participation of students and presents opportunities for students to formulate their own questions, discuss issues, explain their views and engage in cooperative learning by working in teams on problems and project, needs to be adopted if this can improve students' achievement especially in manufacturing accounts.

Theoretical Framework:

Some few selected theories of learning related to this study are discussed below:

Learning Theories

Learning theories attempt to describe and explain those processes that are involved for a persistent behaviour changed as a result of interaction with the environment. Learning theories seek to explain the learning process, that is, how learning takes place in man as well as in animals.

The choice of a theory of learning greatly influences the instruction by a business teacher. She pointed out that two learning theories can be applied by a business teacher namely the *conditionalism* and *stimulus-response* bond. Learning theories have two chief values, one is in providing us with vocabulary and a conceptual framework for interpreting the examples of learning that we observed; the other is in suggesting where to look for solutions to practical problems.

The theoretical framework that contributes to an understanding of the success of peer tutoring includes those of Kurt Koffka, Jean Piaget and Vygotsky. These theories include the *social interdependence*, *cognitive-developmental* and *behavioural* theories.

(A) Social Interdependence Theory

The social interdependence perspective is largely based on the theory of Kurt Koffka. The main argument of this theory is that interaction with people is essential for human survival. In educational setting, social interdependence refers to students' efforts to achieve, develop positive relationships, adjust psychologically, and show social competence.

The social interdependence perspective of cooperative learning presupposes that the way social interaction is structured determines the way persons interact with each other. This implies that groups are dynamic wholes in which the interdependence among members could vary and outcomes are the consequence of interactions among persons.

The basic premise of social interdependence theory is that the type of interdependence structured in a situation determines how individuals interact with each other which, in turn, determines outcomes. Kurt Lewin refined Koffka's notions in the 1920s and 1930s while stating that (i) the essence of a group is the interdependence among members (created by common goals) which results in the group being a dynamic whole so that a change in the state of any member or subgroup changes the state of any other member or subgroup and (ii) an intrinsic state of tension within group members motivates movement toward the accomplishment of the desired common goals. Ovisankian, Lissner, Mahler, and Lewis contributed further research indicating that it is the drive for goal accomplishment that motivates cooperative and competitive behaviour.

Social interdependence exists when individuals share common goals and each individual's outcomes are affected by the actions of the others. It may be differentiated from *social dependence* in which the outcome of one person is affected by the actions of a second person but not vice versa; and *social independence* where an individual's outcome is

unaffected by the actions of others. There are two types of social interdependence: *cooperative* and *competitive*. The absence of social interdependence and dependence results in individualistic efforts.

Cooperative Interdependence

Here, students work together towards attaining a stated objective. They work together to accomplish shared goals with a vested interest in each other's learning as well as their own. Within cooperative activities, individuals seek outcomes that are beneficial to themselves and to all group members.

Competitive Interdependence

The direct opposite of cooperative interdependence is competitive interdependence. Competitive interdependence is one in which students work individually or as a group, each student or group trying to perform better than the other in grades. They work against each other to achieve a goal that only one or a few students can attain. Again, in competitive learning, students are graded on a *norm-referenced basis* which requires them to work faster and more accurately than their peers; with the motive that an individual's winning means another's losing, and that an individual's failure makes it easier for another to win. It is a *survival of the fittest* learning situation. Competition is a form of ego-enhancement motivation involving self-aggrandizing activity in which the individual vies with others for status and pre-eminence, and thereby increase learning rate. Apart from competitive learning, students can still work *individualistically*.

It, therefore, follows that while in *individualistic* effort, students work independently, in *competitive learning*, a negative interdependence exists among goal achievement of students. In *cooperative effort*, there is positive goal interdependence with individual accountability. *Positive interdependence* tends to result in promotive interaction, while *negative interdependence* tends to result in oppositional interaction, and no interdependence results in an absence of interaction.

Essentially, in peer tutoring situations, the actions of participants substitute for each other. Participants positively accommodate each other's effective actions, and there is high inducement among participants. In *competitive situations*, the actions of participants do not substitute for each other. Individuals may be working:

(1) together *cooperatively* to accomplish shared learning goals. When a situation is structured *cooperatively*, individuals' goal achievements are *positively correlated*; individuals perceive that they can reach their goals if and only if the others in the group reach their goals. Thus, individuals seek outcomes that are beneficial to all those with whom they are *cooperatively* linked;

(2) against each other to achieve a goal that only one or a few can attain. When a situation is structured *competitively*, individuals work against each other to achieve a goal that only one or a few can attain. Individuals' goal achievements are *negatively correlated;* each individual perceives that when one person achieves his/her goal, all others with whom he/she is competitively linked fail to achieve their goals. Thus, individuals seek an outcome that is personally beneficial but detrimental to all others in the situation; and

(3) by oneself to accomplish goals unrelated to the goals of others. When a situation is structured *individualistically*, there is no correlation among participants' goal achievements. Each individual perceives that he/she can reach his/her goal regardless of whether other individuals attain or do not attain their goals. Thus, individuals seek an outcome that is personally beneficial without concern for the outcome of others.

Positive interdependence creates promotive interaction. Promotive interaction tends to result in a wide variety of outcomes that may be subsumed into the categories of high effort to achieve, positive relationships, and psychological health.

Johnson and Johnson (1989) further stated that group members promote each other's success by:

(i) giving and receiving help and assistance (both task-related and personal);

(ii) exchanging resources and information. Group members seek information and other resources from each other, comprehend information accurately and without bias, and make optimal use of the information provided. There are a number of beneficial results from (a) orally explaining, elaborating and summarizing information and (b) teaching one's knowledge to others.

Explaining and teaching increase the degree to which group members cognitively process and organize information, engage in high level reasoning, attain insights, and become personally committed to achieving. Listening critically to the explanations of group mates provides the opportunity to utilize other's resources.

(c) Giving and receiving feedback on task, work and teamwork behaviours. In peer tutoring groups, members monitor each other's efforts, give immediate feedback on performance, and, when needed, give each other help and assistance.

(d) Challenging each other's reasoning. Intellectual controversy promotes curiosity, motivation to learn, reconceptualization of what one knows, higher quality decision making, greater insight into the problem being considered, and many other important benefits.

(e) Advocating increased efforts to achieve. Encouraging others to achieve increases one's own commitment to do so.

(f) Mutually influencing each other's reasoning and behaviour. Group members actively seek to influence and be influenced by each other. If a member has a better way to complete a task, group mates usually quickly adopt it.

(g) Engaging in the interpersonal and small group skills needed for effective teamwork.

(h) Processing how effectively group members are working together and how the group's effectiveness can be continuously improved.

Therefore, one of the peer tutoring elements that has to be structured in the classroom is positive interdependence or cooperation. When this is done, cooperation results in promotive interaction as group members encourage each other's efforts to learn.

(B) Cognitive Developmental Theory

This theory's perspective is largely on the theories of Jean Piaget and Vygotsky. Piaget was one of the first theorists to evolve a constructivist theory of cognitive functioning and development about 1920. The main argument of Piaget's theory is that when individuals cooperate on the environment, socio-cognitive conflict occurs that creates cognitive disequilibrium which in turn stimulates perspective-taking ability and cognitive development.

From Piaget's thought, a model can be developed to provide a building block for the use of peer tutoring in the classrooms. Piaget argued that peer interaction provides rich and necessary contexts for students to revise their current cognitive system. Reflecting on cognitive system, such modifications will in turn, lead students to make new meanings. Permanent modifications to existing cognitive systems are only one of many outcomes to make any significance in a given context.

A consistent theme within Piaget's theory is that learning depends on equilibrium, a process involving a reconciliation of conflict between prior and newly experienced beliefs.

The constructivist approach in peer education emphasizes that learning occurs when students share their understanding through class discussion and by exchange of thoughts and ideas. Cognitive construction is facilitated through the following activities, all of which are based on peer interaction: (i) students present their own ideas by explaining them to other group members; (ii) they think and talk about their experiences (iii) they suggest and try out new ideas (iv) they reflect on changes in their ideas (v) they negotiate and aid other students to clarify their thoughts; and (vi) they move ideas forward by making sense of new ones. Indeed, constructivist theory brings to light the significance of social cognitive *interaction*, *cooperation* and *collaboration* in peer tutoring context.

The constructivism views learning as the building of new knowledge based on current and past knowledge. Learning involves constructing one's own knowledge from one's own experiences. Constructivist learning, therefore, is a personal endeavour, whereby internalized

concepts, rules and general principles may consequently be applied in a practical real-world context. The social constructivism posits that knowledge is constructed when individuals engage socially in talk and actively react to shared problems or tasks.

In peer tutoring, as this implies, a teacher acts as a facilitator who encourages students to discover principles for themselves and to construct knowledge by working to solve realistic problems. Stimulus-response bond emphasizes neural action rather than perception. There is tendency for practice among peers and when this is repeatedly done, it would lead to mastery of concept and improvement of computational skills.

Vygotsky's theory, according to Johnson, Johnson and Holubec (1998), presents knowledge as a societal product. The work of Vygotsky is based on the premise that knowledge is social, constructed from cooperative efforts to learn, understand, and solve problems. From a Vygotskian perspective on learning, there are social contexts that provide a learning situation for the development of individual cognitive abilities. In the Vygotskian analysis, learning is socially formed during dealings and activities with others.

During such dealings, individuals engage in the exchange of ideas, information, perspectives, attitudes and opinions. The interaction also provides opportunities for tutees to model their patterns of reasoning, thinking, strategies and problem-solving skills on each of their tutors. Under closer examination, the interaction between individuals reveals specific ways in which learning is mediated by the discourse itself. In general, different types of interaction facilitate different kinds of learning.

(C) Behavioural Theory

The perspective of this theory focuses on the impact of group reinforcers and rewards on learning. The behavioural-social perspective presupposes that cooperative efforts are fueled by extrinsic motivation to achieve group rewards, whether academic or non-academic. Skinner focused on group contingencies; while Homans, and Thibaut, and Kelly focused on the balance of rewards and costs in social exchange among interdependent individuals.

The behaviourists argue that learning will be efficient if every correct response to a question by a learner is rewarded. The reward, therefore, acts as a stimulus to make the learner take another step in learning. Programmed learning strategies such as those of Skinner follow these precepts. The emphasis of tutoring scheme based on this theory is on highly structured system of instructions through which the tutee is guided by the tutors who merely present the material in a suitable order.

Several researchers have documented this relation between the level of discourse with a collaborating pair and the level of learning of the individuals. In numerous studies of peer tutoring interaction and learning, Webb (1984) discovered that giving detailed explanations to others in the group is a strong predictor of achievement while the several researchers all proved that one-on-one tutoring is an effective strategy of instruction.

This study is based mainly on the social interdependence theory by Kurt Koffka. The main argument of this theory is that interaction with people is essential for human survival. In the educational setting, social interdependence refers to students' efforts to achieve, develop positive relationships, adjust psychologically, and show social competence. This theory presupposes that the way social interaction is structured determines the way persons interact with each other. This implies that groups are dynamic wholes in which the interdependence among members could vary and outcomes are the consequences of interactions among persons.

Importance of Learning Theories to the Teaching of Manufacturing Accounts

1. It is necessary to apply the theories of learning in teaching manufacturing accounts as these theories emphasized more on practice which strengthens the stimulus-response bonds. That is, frequent practices are required in manufacturing accounts which in turn lead to perfection.
2. Many skills, habits and attitudes are learnt through conditioning. The process of conditioning and reconditioning can be, therefore, used to develop good learning habits

like communication skills, orderly presentation of facts, computational skills, professional aptitudinal skills, dressing mode and cleanliness. They can also be used to refute bad habits like lateness, anxieties and truancy.

3. The learning situation is such that would enable a learner on his own to discover relationships, principles and generalizations.
4. Finally, learning would be meaningful and interesting and the learner would be encouraged to participate actively in the learning situation.

Related Empirical Studies

Few or no studies have been carried out on the comparison of peer tutoring and memorization strategies on students' achievement in manufacturers' final accounts in colleges of education. However, modern teaching strategies have been compared with other teaching strategies in different areas of studies by some researchers.

A study was conducted by Mickelson, Yetter, Lemberger, Hovater and Ayers (2003) on the impact of peer tutoring on academic achievement of six sections of an introductory statistic course. Quasi-experimental research design was used for the study. The main data analysis tools were ANOVA, regression analysis, mean and standard deviation. The population consisted of 180 undergraduate students who were enrolled in one of six sections (approximately 27 students each) of an undergraduate introductory statistic course offered by an educational psychology department at a large Midwestern research university. Of those who indicated their gender, 50 were males and 118 were females. There were 16 freshmen, 48 sophomores, 47 juniors and 33 seniors with one student obtaining a second bachelor's degree. The vast majority, 88%, of the population indicated that they had no prior experiences with statistics or research methods. The treatment group (Peer Tutoring) demonstrated higher achievement compared with students in control group. Over 60% of the students reported that they had a better understanding when using peer tutoring. Majority of the students felt satisfied with the peer tutoring intervention. This work of Mickelson, Yetter,

Lemberger, Hovater and Ayers is an experimental research which is related to this study in terms of research design (quasi-experimental design) and statistical tools (mean and standard deviation) used for data analysis.

A study was also conducted by Uwameiye and Ogunbameru (2005) to investigate the effect of the conventional method of teaching vis-à-vis the effect 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 of pre-test, post-test control group. Two groups, the experimental and control were subjected to different treatments (instructional methods). Both groups were also subjected to pre-test and post-test using the same instruments. The population of this study comprised all twenty-two senior secondary school two (SS2) financial accounting students in Okitipupa Local Government Education Area of Ondo State in Nigeria. Purposive sampling technique was adopted and used to select school for the study. A test-retest method was used to estimate the reliability of the instrument. A reliability coefficient of 0.63 was obtained using Pearson Product Moment Correlation Coefficient Formula. Two types of instruments that were employed for data collection in this study include instructional package for financial accounting (IPFA) and financial Accounting Achievement Test (FAAT). Findings of study indicated a difference in pre-test or post-test mean performance scores of students in control and experimental groups; and mean performance scores of students taught with guided discovery method and those taught with conventional method in financial accounting achievement post-test scores. The study also revealed no difference in the mean performance scores of male and female students taught with guided discovery and conventional method of teaching respectively. This study of Uwameiye and Ogunbameru is an experimental research which is similar to this work in terms of research design used (quasi experimental pre-test, post-test design), statistical tools used for answering research questions but t-test was used to test the hypotheses at 0.05 level of significance.

A study was also conducted by Fatokun and Yalams (2007) on the effect of guided discovery teaching on students performance in Radio and Television (RTV) fault diagnosis in Nasarawa and Plateau States. A quasi-experimental pre-test post-test design whereby intact classes, which constitute naturally arranged groups of students, were used. The population of the study consisted of all the 62 year III RTV and electronic servicing trade students comprising 42 males and 20 females in two colleges used. Two sets of instrument were used for data collection. RTV fault diagnosis achievement test (RTVFAAT) and a researcher's developed RTV fault diagnosis performance test (RTVFDPT). Three research questions and three hypotheses were formulated. Mean and standard deviation were used for analysis of data to answer the research questions while ANCOVA was used to test the hypotheses at 0.05 level of significance. The result showed that students taught RTV fault diagnosis by the use of guided discovery performed significantly better than those taught with conventional method. There was no significant difference between the post-test performance scores of male and female students in RTV fault diagnosis. This study of Fatokun and Yalams is an experimental research which is similar to this work in terms of research design used (quasi-experimental pre-test post-test design) and statistical tools used (such as mean, standard deviation and ANCOVA) for data analysis.

There was also a study conducted by Hamushek, Kain, Markman and Rivkin (2003) on the effect of peer ability on students achievement. Two experiments were conducted to determine the effect of peer ability (PA) on students achievement. In experiment one, students were assigned to one of two conditions – Peer Ability (PA) or non- Peer Ability (NPA). PA students developed questions on specific course topic; they then used these questions to quiz other students before taking midterm and final course examinations. Students who used PA generally reported that PA improved their understanding of course content. In experiment two, the PA procedures were modified to better match the procedure used in earlier studies whose authors had found PA to be superior to NPA condition.

Hanushek, Kain, Markman and Rivkin concluded that peer ability has a positive effect on students achievement. Their study relates to the present study as it compared peer ability on students achievement as in the present study.

Another study was conducted by Pigott, Fantuzzo and Clement (1986) on the effect of peer tutoring group contingents on the academic performance of elementary school children. Quasi-experimental research non-equivalent research design was used for the study. The elementary school children were grouped into two: treatment group (peer tutoring group) and control group. The findings of the study showed that children in treatment group performed significantly better than children in control group. ANCOVA, mean and standard deviation were used for data analysis. The result indicated that a significant different existed between the performance of students in treatment group and those in control group. This work of Pigott, Fantuzzo, and Clement is an experimental research which is similar to this study in terms of design (quasi-experimental research design), testing instrument and statistical tools used (mean, standard deviation and ANCOVA) for data analysis.

A study was also conducted by Uwameiye and Aduwa-Ogiegbaen (2006) on the effect of reciprocal peer tutoring on the academic achievement of students in introductory technology in Edo State. A quasi-experimental pre-test post-test design with an experimental and non-equivalent control group was adopted. The population of the study comprised all the 230 second year introductory technology students in the four technical colleges in Edo State. Reciprocal peer tutoring instructional lesson plans, traditional lesson plans and an introductory technology achievement test were used as instruments for data collection. Five research questions and five hypotheses were formulated. Mean and standard deviation were used in analysing the data for the research questions while ANCOVA was used to test the hypotheses at 0.05 level of significance. The study found out that the students taught with reciprocal peer tutoring approach were found to have higher mean post-test scores in the introductory technology achievement test than those taught with the conventional lecture

method. This study of Uwameiye and Aduwa-Ogiegbaen carried out in 2006 is an experimental research which is similar to this work in terms of research design used (quasi-experimental pre-test post-test design) and statistical tools used (mean, standard deviation and ANCOVA) for data analysis.

Summary of Literature Reviewed

From the review of literature, it was observed that some teaching strategies have been adopted in teaching manufacturing accounts. These teaching strategies include planned repetition, explanation, and drill and practice. Peer tutoring is one of the innovative strategies that can be adopted in teaching manufacturing accounts since it involves a process by which learners have to construct and reconstruct their knowledge to be functional members of the society.

Students' achievement in manufacturing accounts had been consistently low as a result of traditional teaching strategies adopted in teaching the topic. Memorization strategy is one of these traditional teaching strategies. The persistent low achievement of students in manufacturing accounts had given rise to the need to introduce peer tutoring strategy in teaching the topic for improvement in students' achievement.

In the theoretical framework, the literature reviewed learning theories that support active and interactive learning process. These theories include social interdependence, cognitive developmental and behavioural theories of learning. The literature showed that these theories help a teacher to facilitate and encourage students to discover principles for themselves and to construct knowledge by working together to solve realistic problems.

In the empirical studies, instructional strategies and their efficacies were reviewed. No research has compared peer tutoring strategy with memorization strategy on students' achievement in manufacturing accounts (manufacturers' final accounts). The researcher has, therefore, undertaken to conduct a research in this area to find out the extent the adoption of

peer tutoring strategy can help in improving students' achievement in manufacturers' final accounts in colleges of education in Anambra State, Nigeria.

CHAPTER THREE

METHODOLOGY

This chapter discusses the procedure to be adopted in this study under the following sub-headings: Design of the Study; Area of the Study; Population for the Study; Sample and Sampling Technique; Instrument for Data Collection; Validation of the Instrument; Reliability of the Instrument; Method of Data Collection; and Method of Data Analysis.

Design of the Study

This study adopted a quasi-experimental research design. Specifically, non-randomized treatment and control groups, pretest and posttest design was used in the study. The reason for adopting a quasi-experimental research design was that a true experimental research design which involved random selection of subjects would disrupt normal academic activities in the colleges of education under study. Again, such random selection of subjects in true experimental research design is, according to Ezeudu and Ezeh (2008), hardly permitted by the authorities of the schools used for the research.

Area of the Study

The study was carried out in Anambra State. The two colleges of education in the area under study are Nwafor-Orizu College of Education, Nsugbe and Federal College of Education (Technical), Umunze. These schools are the only colleges of education in Anambra State, and they are located apart which helped in controlling extraneous variables. The choice of this area was based on the fact that Anambra State is a commercial area with its resultant increased demand for the services of accountants. Unfortunately, the rate of failure of students in accounting was high in this area and this situation demanded for an alternative possible way of improving students' achievement in accounting particularly in manufacturing accounts.

Population for the Study

The population for the study was 72 NCE year II Business Education (Accounting) students from the two colleges of education in Anambra state. The number was made up of 42 students from Federal College of Education (Technical), Umunze and 30 students from Nwafor-Orizu College of Education, Nsugbe. The figure was obtained from the Business Education departments of the two colleges of education under study. NCE year II students were chosen because Financial Accounting II which comprises manufacturing accounts is taught at NCE year II as contained in the curriculum of colleges of education.

Sample and Sampling Technique

No sample was taken because the population was small and manageable.

Instrument for Data Collection

Manufacturing Accounts Achievement Test (MAAT) was used for data collection. The MAAT was made up of parts A and B. Part A comprised 20 multiple choice items. The students were required to choose one correct answer from the given options lettered A-D. In Part B, students were required to prepare a manufacturing, trading, profit and loss accounts, and a balance sheet from a given question.

Validation of the Instrument

The Manufacturing Accounts Achievement Test (MAAT), peer tutoring and memorization lesson plans were all subjected to face-validation by three experts from the department of Vocational Teacher Education, University of Nigeria, Nsukka. Each validate was requested to reword/delete/add items as was considered appropriate and make general comment or suggestions for improving the instruments to meet the purpose of the study. Based on their corrections and suggestions, amendment was made on the instruments before the final copies were produced for use in the study. See Appendices I-IV pp. 72-94 for copies of the Manufacturing Accounts Achievement Test (MAAT), peer tutoring and memorization lesson plans.

Reliability of the Instrument

The reliability of the instrument was carried out. The instrument was trial tested on twenty (20) NCE year II Business Education (Accounting) students at Federal College of Education, Eha-Amufu. The students tested had similar characteristics as those in the population. The chosen college is located in Enugu State which shares a common cultural and educational background with Anambra State because the two states have the same geographical origin.

After the administration and gradation of the instrument, Kuder Richardson Formula 21 (KR21) was used to determine the estimate of the internal consistency of the achievement test instrument. According to Ezeh (2003), KR21 is mostly applied to tests that have dichotomous scores, since the MAAT was dichotomously scored, KR21 was applied. The reliability coefficient of the test was 0.87, therefore, the researcher considered the instrument reliable.

Method of Data Collection

Pretest was administered to all the students in both the experimental group and the control group before the experiment. The items were marked and scored. After the experiment, a posttest was also administered to the same students. However, in the posttest, items in the MAAT were re-arranged to remove bias. The items were marked and scored. The results of the pretest and the posttest formed the data for this study. The time gap was four weeks between the pretest and the posttest.

Method of Data Analysis

The research questions were answered using mean and standard deviation while analysis of covariance (ANCOVA) was used to test all the null hypotheses at 0.05 level of significance.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter presents the analysis of the data collected for this study. The research questions and hypotheses formulated for the study are analysed and presented as follows:

Research Question 1

What are the mean scores of students taught manufacturing account using peer tutoring strategy and those taught using memorization strategy?

Table 2

Mean and Standard Deviation of Pretest and Posttest Scores of Students taught Manufacturing Account using Peer Tutoring and Memorization Strategies.

Groups	N	Teaching strategies	Pretest		Posttest		Mean gain score	Difference in gain score
			$\overline{X}$	SD	$\overline{X}$	SD		
Experimental	42	Peer Tutoring	36.26	11.47	71.86	14.46	35.60	
Control	30	Memorization	40.23	9.52	51.03	13.61	10.80	24.80

The data presented in Table 2 indicate that the experimental group had a mean score of 36.26 and a standard deviation of 11.47 in the pretest, and a mean score of 71.86 and a standard deviation of 14.46 in the posttest making a pretest/ posttest gain score of the experimental group to be 35.60. The control group had a mean score of 40.23 and a standard deviation of 9.52 in the pretest, and a mean score of 51.03 and a standard deviation of 13.61 in the posttest making a pretest/ posttest gain score of the control group to be 10.80. This implies that the experimental group achieved better than the control group in manufacturing account by a difference of 24.80.

Research Question 2

What are the mean scores of students taught trading account using peer tutoring strategy and those taught using memorization strategy?

Table 3

Mean and Standard Deviation of Pretest and Posttest Scores of Students taught Trading Account using Peer Tutoring and Memorization Strategies.

Groups	N	Teaching strategies	Pretest		Posttest		Mean gain score	Difference in gain score
			$\overline{X}$	SD	$\overline{X}$	SD		
Experimental	42	Peer Tutoring	27.21	10.32	72.38	12.63	45.17	
Control	30	Memorization	27.97	9.14	52.07	12.96	24.10	21.07

The data presented in Table 3 indicate that the experimental group had a mean score of 27.21 and a standard deviation of 10.32 in the pretest, and a mean score of 72.38 and a standard deviation of 12.63 in the posttest making a pretest/posttest gain score of 45.17. The control group had a mean score of 27.97 and a standard deviation of 9.14 in the pretest, and a mean score of 52.07 and a standard deviation of 12.96 in the posttest making a pretest/posttest gain score of 24.10. This implies that the experimental group achieved better than the control group in trading account by a difference of 21.07.

Research Question 3

What are the mean scores of students taught profit and loss account using peer tutoring strategy and those taught using memorization strategy?

Table 4

Mean and Standard Deviation of Pretest and Posttest Scores of Students taught Profit and Loss Account using Peer Tutoring and Memorization Strategies.

Groups	N	Teaching strategies	Pretest		Posttest		Mean gain score	Difference in gain score
			$\overline{X}$	SD	$\overline{X}$	SD		
Experimental	42	Peer Tutoring	41.19	13.57	77.67	10.82	36.48	
Control	30	Memorization	32.30	16.13	46.67	12.49	14.37	22.11

The data presented in Table 4 indicate that the experimental group had a mean score of 41.19 and a standard deviation of 13.57 in the pretest, and a mean score of 77.67 and a standard deviation of 10.82 in the posttest making a pretest/posttest gain score of 36.48. The

control group had a mean score of 32.30 and a standard deviation of 16.13 in the pretest, and a mean score of 46.67 and a standard deviation of 12.49 in the posttest making a pretest/posttest gain score of 14.37. This shows that the experimental group achieved better than the control group in profit and loss account by a difference of 22.11.

Research Question 4

What are the mean scores of students taught balance sheet using peer tutoring strategy and those taught using memorization strategy?

Table 5

Mean and Standard Deviation of Pretest and Posttest Scores of Students taught Balance Sheet using Peer Tutoring and Memorization Strategies.

Groups	N	Teaching strategies	Pretest		Posttest		Mean gain score	Difference in gain score
			$\overline{X}$	SD	$\overline{X}$	SD		
Experimental	42	Peer Tutoring	30.86	11.63	75.98	11.63	45.12	
Control	30	Memorization	31.17	10.71	46.67	13.39	14.96	30.16

The data presented in Table 5 indicate that the experimental group had a mean score of 30.86 and a standard deviation of 11.63 in the pretest, and a mean score of 75.98 and a standard deviation of 11.63 in the posttest making a pretest/posttest gain score of 45.12. The control group had a mean score of 31.17 and a standard deviation of 10.71 in the pretest, and a mean score of 46.67 and a standard deviation of 13.39 in the posttest making a pretest/posttest gain score of 14.96. This shows that the experimental group achieved better than the control group in balance sheet by a difference of 30.16.

Research Question 5

What are the mean scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies?

Table 6

Mean and Standard Deviation of Pretest and Posttest Scores of Male and Female Students taught Manufacturers' Final Accounts using Peer Tutoring and Memorization Strategies.

Gender	N	Teaching strategies	Pretest		Posttest		Mean gain score	Difference in gain score
			$\overline{X}$	SD	$\overline{X}$	SD		
Males	29	Peer Tutoring	16.01	8.23	21.90	6.00	5.89	
Females	43	Peer Tutoring	17.05	7.51	22.83	6.02	5.78	0.11
Males	29	Memorization	13.95	6.17	19.84	3.94	3.81	
Females	43	Memorization	14.99	5.45	20.77	3.96	3.75	0.06

The results in Table 6 show the pretest and posttest scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies. From the table, the male students in the experimental group (peer tutoring) obtained a mean score of 16.01 and a standard deviation of 8.23 in the pretest, and a mean score of 21.90 and a standard deviation of 6.00 in the posttest making a pretest/posttest gain score of 5.89. Female students in the same experimental group obtained a mean score of 17.05 and a standard deviation of 7.51 in the pretest, and a mean score of 22.83 and a standard deviation of 6.02 in the posttest making a pretest/posttest gain score of 5.78.

On the other hand, it was observed that the male students in the control group (memorization) had a mean score of 13.95 and a standard deviation of 6.17 in the pretest, and a mean score of 19.84 and a standard deviation of 3.94 in the posttest making a pretest/posttest gain score of 3.81; while the female students in the same control group had a mean score of 14.99 and a standard deviation of 5.45 in the pretest, and a mean score of 20.77 and a standard deviation of 3.96 in the posttest making a pretest/posttest gain score of 3.75. The difference in gain score of 0.11 by the experimental group and 0.06 by the control group shows that male and female students taught using peer tutoring strategy performed better than male and female students taught using memorization strategy. A comparison of the mean gain

score of 5.89 by male students and 5.78 by female students taught using peer tutoring strategy showed that male students did not perform better than female students in the posttest. This means that peer tutoring strategy favoured both male and female students and increased their achievement in manufacturers' final accounts.

Hypothesis 1

There is no significant difference in the mean scores of students taught manufacturing account using peer tutoring strategy and those taught using memorization strategy.

Table 7

Analysis of Covariance of Students taught Manufacturing Account using Peer Tutoring and Memorization Strategies.

Sources of variance	Df	Sum of squares	Mean square	F-cal	F-critical
Between Groups	1	8.67	8.67		
Within groups	70	101.21	1.34	5.89	3.92
Total	71	109.88			

The results in Table 7 show that f-calculated is greater than f-critical (f-cal>f-critical). The null hypothesis of no significant difference in the mean scores of students taught manufacturing account using peer tutoring strategy and those taught using memorization strategy is rejected at 0.05 level of significance. In other words, peer tutoring strategy produced a greater impact on students' achievement in manufacturing account than memorization strategy.

Hypothesis 2

There is no significant difference in the mean scores of students taught trading account using peer tutoring strategy and those taught using memorization strategy.

Table 8

Analysis of Covariance of Students taught Trading Account using Peer Tutoring and Memorization Strategies.

Sources of variance	Df	Sum of squares	Mean square	F-cal	F-critical
Between Groups	1	9.17	9.17		
Within groups	70	147.05	1.97	5.02	3.92
Total	71	156.22			

The results in Table 8 show that f-calculated is greater than f-critical (f-cal>f-critical). The null hypothesis of no significant difference in the mean scores of students taught trading account using peer tutoring strategy and those taught using memorization strategy is rejected at 0.05 level of significance. This implies that there is a significant difference in the mean scores of the experimental and control groups of students taught trading account using peer tutoring and memorization strategies.

Hypothesis 3

There is no significant difference in the mean scores of students taught profit and loss account using peer tutoring strategy and those taught using memorization strategy.

Table 9

Analysis of Covariance of Students taught Profit and Loss Account using Peer Tutoring and Memorization Strategies.

Sources of variance	Df	Sum of squares	Mean square	F-cal	F-critical
Between Groups	1	9.95	9.95		
Within groups	70	127.67	1.70	5.20	3.92
Total	71	137.62			

In table 9, the null hypothesis of no significant difference in the mean scores of students taught profit and loss account using peer tutoring strategy and those taught using memorization strategy is rejected at 0.05 level of significance since f-calculated is greater than the f-critical (f-cal>f-critical). This implies that a significant difference exists in the mean scores of the experimental and control groups of students taught profit and loss account using peer tutoring and memorization strategies.

Hypothesis 4

There is no significant difference in the mean scores of students taught balance sheet using peer tutoring strategy and those taught using memorization strategy.

Table 10

Analysis of Covariance of Students taught Balance Sheet using Peer Tutoring and Memorization Strategies.

Sources of variance	Df	Sum of squares	Mean square	F-cal	F-critical
Between Groups	1	12.10	12.10		
Within groups	70	124.72	1.66	6.59	3.92
Total	71	136.82			

The analysis presented in table 10 shows that f-calculated is greater than f-critical (f-cal>f-critical). The null hypothesis of no significant difference in the mean scores of students taught balance sheet using peer tutoring strategy and those taught using memorization strategy is, therefore, rejected at 0.05 level of significance. This implies that the mean scores of the experimental and control groups of students taught balance sheet using peer tutoring and memorization strategies differ significantly.

Hypothesis 5

There is no significant difference in the mean scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies.

Table 11

Analysis of Covariance of Male and Female Students taught Manufacturers' Final Accounts using Peer Tutoring and Memorization Strategies.

Sources of variance	Df	Sum of squares	Mean square	F-cal	F-critical
Between Groups	1	0.73	0.73		
Within groups	70	136.94	0.83	0.89	3.92
Total	71	137.67			

The results in Table 11 reveal that f-calculated is less than f-critical (f-cal<f-critical). The null hypothesis of no significant difference in the mean scores of male and female students taught manufacturers' final accounts using peer tutoring and

memorization strategies is, therefore, not rejected at 0.05 level of significance. This implies that no significant difference exists in the mean scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies.

Table 12

Summary of the Performances of Students taught Manufacturers' Final Accounts using Peer Tutoring and Memorization Strategies

Unit	Memorization (Control Group) Mean Scores	Peer Tutoring (Experimental Group) Mean Scores	F-ratio	Significant Level	Significant Difference	Remark
Manufacturing Account	10.80	35.60	5.89	0.05	0.000	Significant
Trading Account	24.10	45.17	5.02	0.05	0.000	Significant
Profit and Loss Account	14.37	38.48	5.20	0.05	0.000	Significant
Balance Sheet	14.96	45.12	6.59	0.05	0.000	Significant
Gender	0.06	0.11	0.89	0.05	0.117	Not Significant

Findings

With regards to the research questions and hypotheses, the following findings were made:

1. Students taught manufacturing account using peer tutoring strategy achieved better in the posttest than those taught using memorization strategy.
2. Students taught trading account using peer tutoring strategy achieved better in the posttest than those taught using memorization strategy.
3. Posttest scores of students taught profit and loss account using peer tutoring strategy were higher than that of those taught using memorization strategy.
4. Students taught balance sheet using peer tutoring strategy scored higher in the posttest than those taught using memorization strategy.

5. The posttest scores of males taught manufacturers' final accounts using peer tutoring strategy were not higher than that of females taught using the same strategy.
6. There was a significant difference in the mean scores of students taught manufacturing account using peer tutoring strategy and those taught using memorization strategy.
7. There was significant difference in the mean scores of students taught trading account using peer tutoring strategy and those taught using memorization strategy.
8. A significant difference existed in the mean scores of students taught profit and loss account using peer tutoring strategy and those taught using memorization strategy.
9. The mean scores of students taught balance sheet using peer tutoring strategy and those taught using memorization strategy differed significantly.
10. No significant difference existed in the mean scores of male and female students taught manufacturers' final accounts using peer tutoring strategy.

Discussion of the Findings

The discussion of findings is organized according to research question and hypothesis in numerical order. Findings revealed a general low performance by students in manufacturers' final accounts. Specifically, the results on each research question and hypothesis showed that the mean scores of students taught using peer tutoring strategy were higher than that of those taught using memorization strategy in each of the units of manufacturers' final accounts as discussed below:

Research Question 1/Hypothesis 1: Manufacturing Account

The results from Table 2 showed that mean scores of students in the experimental group were higher than the mean scores of students in the control group. This was further confirmed by the results in Table 7 which revealed that peer tutoring strategy was a significant factor on students' achievement in manufacturing account. A comparison of the posttest mean scores of the experimental group and the control group proved that peer tutoring strategy is better than memorization strategy in teaching manufacturing account. The

findings of this study seems to agree with the previous findings of Mickelson, Yetter, Lemberger, Hovater & Ayers (2003) who proved in their study that adaptive peer tutoring greatly resulted in improved students' achievement and greater productivity. This equally agrees with the findings of Miller, Topping & Thurston (2010) who also confirmed that peer tutoring proved better in teaching manufacturing account because the strategy enhances higher cognitive gain and course satisfaction in students.

Moreover, this study agrees with that of Hanushek, Kain, Markman & Rivkin (2003) who found out in their study that inappropriate teaching strategy such as memorization strategy is one of the factors that contribute to poor achievement of students in subjects that require skill. Peer tutoring strategy improves students' skill acquisition in manufacturing account.

Research Question 2/Hypothesis 2: Trading Account

The results in Table 3 showed that the experimental group had higher mean scores than the control group in the posttest. This was confirmed by the results in Table 8 which revealed that peer tutoring strategy was a significant factor in students' achievement in trading account. A comparison of the posttest mean scores of the experimental group and the control group proved that peer tutoring strategy is better than memorization strategy in teaching trading account. The findings agrees with the previous findings of Uwameiye & Aduwa-Ogiegbaen (2006) who confirmed in their study that peer tutoring strategy is better than memorization strategy in teaching trading account especially when active participation of students is required in the classroom.

Their findings could be further explained by the fact that the provision of an engaged or active learning environment where students can participate actively in the learning process with the opportunity to interact freely with their teachers and peers increases students' self-reliance. The findings further agrees with that of Christudason (2003) who concluded that

active learning environment where students are allowed to present and defend ideas and questions enables them to gain self-confidence.

Research Question 3/Hypothesis 3: Profit and Loss Account

The results in Table 4 indicated that the mean scores of the experimental group were higher than the mean scores of the control group in the posttest. This was also confirmed by the results in Table 9 which showed that peer tutoring strategy was better than memorization strategy in improving students' achievement significantly in profit and loss account. The findings is in line with the previous findings of Kirshner, Sweller & Clark (2006) who confirmed that students working in groups tend to learn more of what is taught and also tend to retain longer than those working individualistically. The previous findings of Topping (2005) also agreed with the findings of this study because Topping's findings further proved that group work improves students' achievement in cognitive subject matters like profit and loss account.

Research Question 4/Hypothesis 4: Balance Sheet

The results in Table 5 showed that the mean scores of students in the experimental group were better than the mean scores of the students in the control group. This was confirmed by the results in Table 10 which revealed that peer tutoring strategy was a significant factor on students' achievement in balance sheet. A comparison of the posttest mean scores of the experimental group and the control group proved that peer tutoring strategy is better than memorization strategy in teaching balance sheet. The findings agrees with the previous findings of Kourea, Cartledge & Musti-Rao (2007) which proved that peer tutoring strategy enables teachers to individualize instruction for each of their students in the classroom. The teaching of balance sheet requires individualized instruction, and the implementation of peer tutoring strategy in teaching balance sheet creates this opportunity.

Furthermore, the findings also agree with the previous findings of Lipponen (2002) which further explained that peer tutoring strategy enhances learning by allowing students to

represent their own and others ideas and share their expertise in a given text. The teaching of balance sheet requires the sharing of students' ideas among themselves which invariably improves their achievement in balance sheet.

Research Question 5/Hypothesis 5: Male and Female Students taught Manufacturers' Final Accounts using Peer Tutoring and Memorization Strategies.

The results in Table 6 showed that male and female students in the experimental group equally achieved higher than those in the control group. The results in Table 11 confirmed that the higher achievement of male and female students in the posttest was, though, as a result of the treatment given. This means that peer tutoring strategy proved better than memorization strategy in teaching manufacturers' final accounts. This fact was revealed in the male and female students higher mean scores in the posttest. The findings of this study seem to agree with the previous findings of Uwameiye and Ogunbameru (2005) where experimental group proved better than the control group.

A comparison of the mean scores of male and female students taught manufacturers' final accounts using peer tutoring strategy showed that male students did not perform better than female students in the posttest. This is an indication that peer tutoring strategy favoured both male and female students by increasing their achievement in manufacturers' final accounts without any gender discrimination. The findings are consistent with the previous research work of Fatokun and Yalams (2007) who reported that male and female students equally performed in their overall achievement in radio and television diagnosis irrespective of their gender.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter contains the re-statement of the problem, summary of the procedure used, the principal findings of the study, implications of the study, conclusion, recommendations and suggestions for further study.

Re-statement of the Problem

Students cannot acquire needed knowledge and skill required in manufacturers' final accounts through memorization strategy. Memorization strategy, like other traditional teaching strategies, is teacher-centered. Teacher centered strategies, according to Uwameiye and Aduwa-Ogiegbaen (2006), emphasize knowledge transmission from the teacher to passive students and encourage rote-memorization of facts. Brewer, Rheid and Rhine (2003) reported that teacher-centered strategies discourage creativity and prevent students from thinking beyond what is presented to them by their teachers. Manufacturing accounts (or manufacturers' final accounts) involve skill that cannot be mastered by mere memorization of basic rules. Mastering a skill course or subject, as stated by Sinclair (2005), requires active involvement of learners in the teaching and learning process.

The lack of in-depth knowledge and skill acquired by students in manufacturing accounts as a result of deficient teaching strategy adopted by accounting teachers in colleges of education negatively affect their graduates by making them to be neither employable by relevant manufacturing organizations nor be self-employed. To find a lasting solution to this existing problem, it therefore becomes necessary to introduce peer tutoring as an alternative strategy that can bring about positive improvement in students' achievement in manufacturers' final accounts in colleges of education in Anambra State.

Summary of Procedure Used

The study adopted a quasi-experimental research design. Specifically, non-randomized control group, pretest posttest design was used for the study. The study was

aimed at the comparison of peer tutoring and memorization strategies on students' achievement in manufacturers' final accounts in colleges of education in Anambra State. Specific objectives of the study were to determine the mean scores of students taught manufacturing account, trading account, profit and loss account, and balance sheet using peer tutoring and memorization strategies; as well as the mean scores of male and female students taught manufacturers' final accounts using peer tutoring and memorization strategies.

To achieve these specific objectives, five research questions and five null hypotheses were formulated. The population for the study was 72 NCE year II Business Education (Accounting) students from the two colleges of education in Anambra State. No sample was taken as the entire population was used for the study. Three instruments were developed for collecting data for the study. These instruments include:

(i) Four peer tutoring lesson plans which were used for teaching the treatment (experimental) group.

(ii) Four memorization lesson plans which were used for teaching the control group.

(iii) Manufacturing Accounts Achievement Test (MAAT) which comprised manufacturing, trading, profit and loss accounts and balance sheet respectively.

The instruments were validated by three experts from the Department of Vocational Teacher Education in University of Nigeria, Nsukka.

A pretest was first administered to the two groups followed by the treatment which lasted for four weeks. The posttest was given at the end of the treatment. The scores of each student in the entire tests were compiled. Mean and standard deviation were used to answer the research questions while analysis of covariance (ANCOVA) was used to test the hypotheses of no significant difference in the mean scores of the experimental and control groups at 0.05 level of significance.

Principal Findings

The major findings of this study are as follows:

1. There was no significant difference observed in the mean pretest scores of the experimental and control groups. This implies that the two groups had the same initial academic abilities.
2. Students who were taught with peer tutoring strategy scored higher in the posttest than those taught with memorization strategy. The treatment therefore, had a positive improvement on the treatment group which resulted in an increased academic gain.
3. There was no significant difference in the pretest and posttest scores of students taught with memorization strategy. This observation showed that there was no much improvement in the achievement of students in the control group.
4. There was a significant difference in the pretest and posttest scores of students taught with peer tutoring strategy. This finding showed that the gain in achievement of these students was as a result of the effect of the treatment given.
5. There was no significant difference in the posttest scores of male and female students taught with peer tutoring strategy. This showed that peer tutoring strategy favoured both male and female students without any gender discrimination and likewise increased their achievement in manufacturers' final accounts.

Implications of the Study

The findings of this study have implications for accounting teachers, curriculum developers, students, educational researchers and examination bodies. Based on the findings that peer tutoring has positive improvement on students' achievement in manufacturers' final accounts, accounting teachers should adopt this teaching strategy. Apart from improving students' achievement, peer tutoring encourages creativity and allows students to think beyond what is presented to them by their teachers.

To curriculum developers, the implication of the findings is that they should develop appropriate curriculum that will make provision for accounting teachers to adopt peer tutoring as an efficient strategy that can help in addressing all students' academic needs in the classroom. From the findings of this study, examination bodies should be able to develop appropriate assessment instrument that will enable them assess students' achievement based on peer tutoring instead of memorization strategy. From the findings of this study, educational researchers and scholars can see the need for further study on various topics suggested by the researcher.

Conclusion

Based on the findings of this study, the following conclusions were made. The memorization strategy adopted by accounting teachers in colleges of education negatively affected students' learning. This was reflected in their achievement in manufacturing accounts. Students learn faster and master skills better when they are allowed to participate or contribute actively in the class by interacting freely with their teachers and peers, work in group, and perform practical projects together. The adoption of peer tutoring strategy in this study, generally improved students' achievement in manufacturers' final accounts.

Recommendations

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

1. Accounting teachers should adopt peer tutoring strategy in teaching manufacturing accounts. This will enable their students to cater for themselves in the classroom through sharing of ideas among themselves which will help to improve their learning outcomes.
2. Students should be given the opportunity to participate actively and interact freely with their teachers and peers in the classroom as this will help to improve their academic gain in their courses using peer tutoring.

3. Teachers should encourage their students to work cooperatively in groups as this will enable students to improve on their interpersonal, social and relationship skills.
4. Curriculum developers should also integrate peer tutoring strategy into the curriculum of financial accounting.
5. Workshops and seminars should be organized by ministries of education and related government agencies to train accounting teachers on the best ways to use peer tutoring strategy in teaching their students.

Suggestions for Further Study

Based on the findings of this study, the following suggestions were made for further study:

- Further investigations should be carried out to compare peer tutoring strategy with other teaching strategies in manufacturing accounts and other areas of accounting.
- Replication of the study can be done in other education zone within the same state or outside the state.
- A longitudinal study should be undertaken to ensure the efficacy of this result.
- Researchers should make effort to carry out similar research at other levels of education system.

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