ASSESSMENT OF THE RELATIONSHIP BETWEEN BUSINESS EDUCATION STUDENTS' LEARNING STYLES AND THEIR PERFORMANCE IN SHORTHAND IN COLLEGES OF EDUCATION IN NORTH-WEST ZONE, NIGERIA

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JULY, 2018

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A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE AWARD OF MASTER OF BUSINESS EDUCATION DEGREE

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JULY, 2018

DECLARATION

I hereby declare that this dissertation titled assessment of the relationship between business education students' learning styles and their performance in shorthand in colleges of education in North-west Zone, Nigeria has been carried out by me in the Department of Vocational and Technical Education. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for the award of a higher degree or diploma at this or any other institution.

Hussaina Ahmed ABDULLAHI **Date**

CERTIFICATION

This dissertation titled ASSESSMENT OF THE RELATIONSHIP BETWEEN BUSINESS EDUCATION STUDENTS' LEARNING STYLES AND THEIR PERFORMANCE IN SHORTHAND IN COLLEGES OF EDUCATION IN NORTH-WEST ZONE, NIGERIA, by Hussaina Ahmed ABDULLAHI meets the regulations governing the award of the Master of Business Education Degree of Ahmadu Bello University Zaria, and is approved for its contributions to knowledge and literary presentation.

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DEDICATION

This dissertation is dedicated to my late beloved father, Alhaji Abdullahi Muhammad.

ACKNOWLEDGEMENT

The researcher's sincere appreciation goes to her able and wonderful supervisors: Dr S. Ibrahim and Dr A. Ibrahim, their tremendous support, advice, corrections, direction and guidance throughout the period of writing this dissertation. The researcher's express her gratitude to her internal examiners: Prof. J. N. Kwasau and Dr R.T. Umar, for their valuable contributions to the work.

The researcher's express her profound gratitude to: Prof. A.A. Udoh, Dr. A. Hussaini, Dr. S.S. Amoor, Dr. T. J. Adeshina of all Department of Vocational and Technical Education, Ahmadu Bello University, Zaria for their suggestions and contributions to the successful completion of this report. Her special thanks goes to all the academic and non-academic staff of the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria for their immense support.

The researcher's sincere appreciation goes to the students of the sampled institution and record and examination officers of the sample institution for their cooperation. The researcher's also appreciated the contributions of all her course mate for their contributions and encouragement to the successful completion of this work. In the same vein, her sincere appreciation goes to all her friends.

The researcher's acknowledges the parental support of her mother, Hajiya Rabi'atu and her stepmothers: Hajiya Asmau and Hajiya Fatima. The researcher is appreciative of her siblings for their prayers and financial support.

Finally, the researcher's deepest gratitude and appreciation go to the Ultimate Creator, Almighty Allah, for His guidance, love, provision and protection towards the successful completion of this programme.

TABLE OF CONTENTS

		Page
Title Page		i
Declaration		ii
Certification		iii
Dedication		iv
Acknowledgement		v
Table of Contents		vi
List of Tables		ix
List of Figures		x
List of Appendices		xi
Operational Definition of Terms		xii
Abstract		xiii
CHAPTER ONE: INTRODUCTION		
1.1	Background to the Study	1
1.2	Statement of the Problem	3
1.3	Objectives of the Study	5
1.4	Research Questions	6
1.5	Research Hypotheses	6
1.6	Significance of the Study	7
1.7	Basic Assumptions of the Study	8
1.8	Delimitation of the Study	8

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1	Theoretical Framework	9
2.2	Conceptual Framework	10
2.2.1	Concept of Learning Styles	11
2.2.2	Concept of Shorthand	12
2.2.3	Concept of Performance	13
2.3	Learning Style Types/ Models	14
2.4	Learning Styles and Students' Performance	26
2.4	Factors Affecting Students' Performance in Shorthand	36
2.5	Review of Empirical Studies	44
2.6	Summary of Reviewed Literature	52

CHAPTER THREE: RESEARCH METHODOLOGY

3.1	Research Design	54
3.2	Population of the Study	55
3.3	Sample Size and Sampling Procedure	55
3.4	Instrument for Data Collection	56
3.4.1	Validity of the Instrument	57
3.4.2	Pilot Study	57
3.4.3	Reliability of the Instrument	57
3.5	Procedure for Data Collection	58
3.6	Procedure for Data Analysis	59

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF DATA

4.1	Answers to Research Questions	60
4.2	Test of Null Hypotheses	64
4.3	Discussion of Major Findings-	66

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1	Summary	69
5.2	Contribution to Knowledge	70
5.3	Conclusion	71
5.4	Recommendations	71
5.5	Suggestion for Further Studies	72
REFERENCES		73
APPENDICES		81

LIST OF TABLES

Table		Pages
1	Population of the Study	55
2	Sample Size	56
3	Classification of business education students based on their learning styles	60
4	Mean performance of relationship between visual learning styles and business education students' performance in shorthand	61
5	Mean performance of the relationship between auditory learning styles and business education students' performance in shorthand	62
6	Mean performance of relationship between kinesthetic learning styles and business education students' performance in shorthand	62
7	Mean difference in the performance of business education students in Shorthand based on their learning styles	63
8	PPMC test of the relationship between visual learning style and business education students' performance in shorthand	64
9	PPMC test of the relationship between auditory learning style and business education students' performance in shorthand	64
10	PPMC test of the relationship between kinesthetic learning style and business education students' performance in shorthand	65
11	ANOVA test in the performance of business education students in shorthand based on their learning styles	65

LIST OF FIGURES

		Pages
1	Dunn & Dunn Learning Styles' Model	20
2	Kolb Learning Styles' Model	25

LIST OF APPENDICES

Appendix	**Pages**
A Letter of Introduction	81
B Perceptual Learning Styles Questionnaire	82
C Bed 116 (Shorthand Theory 1) 2015/2016 First Semester Result	84

OPERATIONAL DEFINITION OF TERMS

Learning styles Preferred way through which business education students learn and process information while learning shorthand that is through visual, auditory, or kinesthetic learning style.

Shorthand a core subject in the business education programme of colleges of education for the attainment of the Nigeria Certificate in Education (NCE).

Academic Performance Scores of business education students in shorthand examination in first semester 2015/2016 academic session in colleges of education in North-west Zone, Nigeria.

ABSTRACT

The study assessed the relationship between business education student's learning styles and their performance in shorthand in the college of education in North-west Zone, Nigeria. The study had five objectives, five research questions and four null hypotheses. Ex post facto research design was adopted for the study. The population of the study was 1,616 NCE 1 business education students in colleges of education in North-west Zone, Nigeria in 2015/2016 academic session. The sample was three hundred and sixty-four NCE 1 business education students from four federal colleges of education. The instruments used to generate data for the study were Perceptual Learning Styles Questionnaire (PLSQ) and students' examination results in shorthand. Frequency, percentages, mean and standard deviation were used to answer the research questions. Pearson Product Moment Correlation (PPMC) was used to test hypotheses one, two and three, and ANOVA was used to test hypothesis four. From the result of the study, hypotheses one, two and four were retained while hypothesis three was rejected. The summary of the study showed that visual and auditory learning styles had no significant relationship with students' performance in shorthand, kinesthetic learning style had significant relationship with students' performance in shorthand and there is no significant difference in the performance of students in shorthand based on their learning styles. It was concluded that adopting the appropriate learning style is paramount to how well a students' performs in shorthand. Based on the findings, four (4) recommendations were made, among which were that shorthand lecturers should take into account their students' diverse learning styles and design instructional methods that take care of those diversities and remain sensitive to such during the instruction process and that business education students should be encouraged to adopt kinesthetic learning style in learning shorthand in colleges of education in North-west Zone, Nigeria

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Business education is an area of study that exposes its recipients to a diversified curriculum. Ibrahim (2008) viewed business education as that type of education that inculcates in its recipients' attitudes, knowledge, skills, and values that are required in the business world. It produces literate and self-reliant citizens that would create wealth for human and national development, ultimately resulting in sustainable national development. Njoku (2006) defined business education as an educational programme that equips an individual with functional and suitable skills, knowledge, attitude and value that enables him/her operate in the environment he/she finds himself/herself.

According to Adesina (2007), business education is a primary education for vocation. It is an integral part of vocational and technical education. It is a training system that encourages the beneficiary to acquire skills that makes him fit into the world of work. Business education encompasses attitude, knowledge, and skills needed for any level of employment and advancement in a broad range of business careers. Business education curriculum provides training in shorthand skills.

Shorthand is one of the fundamental subjects in business education. The National Commission for Colleges of Education (NCCE) recognised shorthand as an important business education subject, particularly with regards to the achievement of objective five of Nigeria Certificate in Education (NCE) business education, which is "to equip NCE graduates with the right skills that will enable them to engage in a life of work in the office as well as for self-employment" (NCCE, 2012 revised). Shorthand is any system of representing spoken sound with written signs. Shorthand system is used to write as quickly as people

speak using special symbols to represent words and phrases. Redmond (2008) considered shorthand as any system of writing that is rapid and concise enough to enable the writer to keep pace with normal speech. Usually, strokes, abbreviations and special characters are used to represent letters, words, and phrases. NCE graduates having effective shorthand skills are able to listen, focus, organize and attend to details. Some factors affect the learning process which makes mastering of shorthand difficult for students. These factors include learning styles, self-esteem, teaching methods, mood, environment, and background.

Individual learners have different backgrounds, strengths, weaknesses, needs, levels of attitudes, motivations, and approaches to learning. People adopt approaches to learning which they are most comfortable with. Learners also differ in how successfully they respond to, and profit from instructional processes. Among the factors that determine success or failure in learning processes, is the consideration of differences in learning styles. Learning style is defined as the manner and the condition under which learners most efficiently and effectively perceived, process, store and recall what they are attempting to learn**.** This view was emphasized by Liu (2008) when he defined learning styles as approaches to learning which refer to information processed in a preferred way in accordance to a learner's habitual characteristics. Walsh (2011) stated that learning styles are typical approaches or patterns; visual, auditory and kinesthetic, that gives direction to learning behavior.

Every individual learns and processes information in different ways. Understanding an individual's learning style preferences help learners to be aware of themselves, their abilities, how they learn, and why they differ from their peers. It also assists them in planning their learning, and developing strategies that help cope with different learning situations in order to make learning more meaningful and effective. Bidabadi &Yamat (2010) and Sabatova (2008) reported that students' academic performance can be improved when they learn within the realm of their learning styles. There is numerous classification of learning

styles, however, this study focused on perceptual learning styles model which classified learning into visual learning style (learning through seeing), auditory learning style (learning through hearing and listening) and Kinesthetic learning style (learning through active engagement in doing or touching).

In skill, related subjects such as shorthand, students' learning styles play an essential role and may influence their learning processes which may eventually affect their academic performance. Performance refers to what students achieve in their studies and how they cope with or accomplish different learning experiences given to them by their teachers. Ibrahim (2011) reported that in educational institutions, success is measured by how well students meet the standards set out by the institutions. All the described variables constitute the background in which this study was conducted on the assessment of the relationship between business education students' learning styles and their performance in shorthand in colleges of education in North-west Zone, Nigeria.

1.2 Statement of the Problem

Shorthand is one of the core business education subjects offered for the attainment of Nigeria Certificate in Education. The performances of students in shorthand continued to decline yearly in colleges of education. It was noted by the researcher that only few business education students performed well in shorthand. This poor performance was a major concern of teachers, researchers, and curriculum planners, because if the trend continued unchecked and untreated, students may lose interest in shorthand. Amoor (2014) reported that shorthand and typewriting that involve manipulation, construction and demonstration were losing their values compared to other business subjects like economics, accounting, and marketing to extend that students were no longer speaking favorably about them. The recurrent poor performance of students in shorthand was disturbing. Vundi, Nasango, and Majanga (2011) have observed that there is a decline in students' performance in shorthand. In confirmation

of this statement, the researcher's preliminary investigation of the performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria revealed its poor status.

The analyses of NCE I business education students' performance in shorthand for five academic sessions (2011 to 2016) in three federal and three state colleges of education revealed that, in 2011/2012 academic session, only 30% passed in Federal College of Education (Technical), Gusau, only 45.2% passed within the range of credit and above in Federal College of Education, Kano, only 42.6% passed within the range of credit and above in Federal College of Education, Zaria. In 2012/2013 academic session, only 40% passed within the range of credit and above in Jigawa State College of Education, Gumel, only 31% passed within the range of credit and above in Sa'adatu Rimi College of Education, Kano, only 39% passed within the range of credit and above. In College of Education Gidan Waya, Kafanchan, only 40% passed within the range of credit and above. Likewise, in 2012/2013 academic session, 45.5%, 29.2%, and 38.3% were able to pass shorthand with credit and above in Federal Colleges of Education, Zaria, Kano and Federal College of Education (Technical), Gusau respectively. Whereas 38%, 39%, and 30% were able to pass shorthand with credit in Colleges of Education Gumel, Saadatu Rimi Kano, and Gidan Waya Kafanchan respectively. In the 2015/2016 academic session, the results indicated that only 40% of the students passed shorthand with credit and above across the Federal and State Colleges of Education. The same situation has been observed generally across the other session in colleges.

One of the probable causes of students' poor performance in shorthand may be attributed to the learning styles adopted by the students in learning. Performance is determined by many factors and learning styles may be among them. Vaishnav (2013) and Akbarov (2012) established that learning styles had significant input on students'

performance. However, Tight (2007) and Sparks (2006) reported that students' performance had no significant relationship with their learning styles. There is, therefore, conflicting arguments in the literature on the relationship between learning styles and students' academic performance.

Based on this problem, therefore, the researcher carried out a research on the assessment of the relationship between business education students' learning styles and their performance in shorthand in colleges of education in North-west Zone, Nigeria.

1.3 Objectives of the Study

The general objective of the study was to assess the relationship between business education students' learning styles and their performance in shorthand in colleges of education in North-west Zone, Nigeria. The specific objectives were to:

1. classify business education students into visual, auditory and kinesthetic learners of shorthand in colleges of education in North-west Zone, Nigeria
2. assess the relationship between visual learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria
3. investigate the relationship between auditory learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria
4. determine the relationship between kinesthetic learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria
5. establish the difference in the performance of business education students in shorthand who adopt visual learning style, auditory learning style or kinesthetic learning style in colleges of education in North-west Zone, Nigeria

1.4 Research Questions

In line with the specific objectives, this study sought answers to the following research questions:

1. What is the classification of business education students into visual, auditory and kinesthetic learning style in learning shorthand in colleges of education in North-west Zone, Nigeria?
2. What is the relationship between visual learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria?
3. What is the relationship between auditory learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria?
4. What is the relationship between kinesthetic learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria?
5. What is the difference in the performance of business education students in shorthand who adopted visual learning style, auditory learning style and kinesthetic learning style in colleges of education in North-west Zone, Nigeria?

1.5 Research Hypotheses

In line with specific objectives, the following null hypotheses are tested:

1. There is no significant relationship between visual learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria.

2. There is no significant relationship between auditory learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria.
3. There is no significant relationship between kinesthetic learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria.
4. There is no significant difference in the performance of business education students in shorthand who adopted visual learning style, auditory learning style and kinesthetic learning style in colleges of education in North-west Zone, Nigeria.

1.6 Significance of the Study

The result of the study will be of importance to business education students, business education lecturers, National Commission for Colleges of Education (NCCE), parents, counsellors and other researchers.

The result of the study will enable business education students to be aware of their learning styles and will help them to learn better because people learn better when they are aware and learn within the realm of their learning styles.

The result of the study will help business education lecturers in identifying the learning styles of their students and thus enable them to device teaching techniques that will accommodate individual students' learning style.

The result of the study will enable NCCE to improve NCE Business Education Benchmark and Minimum Academic Standard (B-MAS). Parent will be interested in the result of the study because whatever affects their children's education is of interest to them.

The result of the study will enable counselors to guide students on how to maximize and utilize their potentials and it will also be useful to them in their task of counseling the

students. Finally, the study is expected to be used by further researchers in shorthand as reference materials and empirical studies.

1.7 Basic Assumptions of the Study

In this study, the following assumptions were made

1. Learning styles (Visual, Auditory and kinesthetic) may have a relationship with business education students' performance in shorthand.
2. Other variables (such as teachers' methodology, peer influence, school environment) have the same relationship with business education students' performance in shorthand.

1.8 Delimitation of the Study

The study was delimited to four (4) federal colleges of education in North-west Zone, Nigeria. This was because it was observed that failure in shorthand was high in federal colleges of education in the Zone. The study was also delimited to an adapted Reid (1987) Perceptual Learning Style Questionnaire, because it was one of the classical instruments used in identifying students' learning styles, and it was among the first model to systematically use a series of questions with help sheet for students, teachers, and employees in order to identify an individuals preferred way of processing information.

The study was delimited to NCE1 business education students. The choice of this level of students was based on the fact that they were newly admitted to the college and are being taught the introductory aspect of shorthand. It was also delimited to BED 116 (Shorthand theory l) because it was a core subject for all business education students at this level. The study was further delimited to NCE 1 business education first-semester examination result in shorthand in the 2015/2016 academic session.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter reviewed literature related to the study. The review was done under the following sub-headings:

2.1 Theoretical Framework

2.2 Conceptual Framework

2.2.1 Concept of Learning Styles

2.2.2 Concept of Shorthand

2.2.3 Concept of Academic Performance

2.3 Learning Styles Types/ Models

2.4 Learning Styles and Students' Academic Performance

2.5 Factors Affecting Students' Academic Performance in Shorthand

2.6 Review of Empirical Studies

2.7 Summary of Reviewed Literature

2.1 Theoretical Framework

This study was based on Individual Difference Theory by Bruner (1960). The Theory proposed that individuals differ in what type of prior knowledge they bring to a learning task. Each individual has a cognitive structure built from prior learning experiences which differ from other learners. Bruner believes that every individual has the ability to acquire knowledge. The key to reaching each individual with knowledge is instruction, and that every individual learns best through different approaches. Bruner believes that cognitive ability is the way in which information or knowledge is stored and encoded in memory. This is easily translated into a student's learning style, where every individual learns, processes and retains information through a most preferred way or approach.

To this Theory, the instructor adjust instruction to fit the learners' state of understanding since education is concerned with assisting each individual in developing and constructing a world through representation of his experience and knowledge and the instructor assists the learner to acquire knowledge that is meaningful and useful with regards to his thinking through the learner's preferred way of learning. The same process in shorthand, where the teacher (instructor) guides and assists each individual learner to develop an understanding on how the strokes are written, how the pronunciations on them are made and how vowels are placed based on proper pronunciation for remembrance.

2.2 Conceptual Framework

This study focuses on the assessment of the relationship between business education students learning styles and their performance in shorthand. Learning styles as defined by Njoku and Abdulhamid (2016) as the preference or disposition of an individual to perceive and process information in a particular way or combination of ways. It is the way individuals process, absorb and retain information or skills, regardless of how that process is described. This study adopts the classification of learning styles by Reid (1987) which classifies into visual learning style (learning through seeing), auditory learning style (learning through hearing) and kinesthetic learning style (learning through doing) using the perceptual learning styles questionnaire.

Students' academic performance is associated with their learning styles. Liu (2008) demonstrate that kinesthetic learners perform higher in academics performance than auditory and visual learners. This result is further substantiated by Vaishnav (2013) who demonstrated that students with kinesthetic learning style scored higher in academic performance. This indicates that learning styles are one of the predictors of academic performance. However, empirical research indicated an inconclusive association between learning styles and students' performance, Al-Hebaishi (2012) reported learning styles has no significant

relationship with students' academic performance. Review of the literature indicates that performance is affected by various factors and it in return may have some degree with the learning styles of the learners.

2.2.1 Concept of Learning Styles

The concept of Learning Styles has been defined by various scholars. Learning Styles is the way in which each person begins to concentrate on, process, and retain information through different perceptual channels. Pritchard (2009) describe learning styles as an individual's preferred means of acquiring knowledge and skills. It is a person's typical approach to learning activities and problem-solving. Liu (2008) defined Learning Styles as an approach to learning which refers to information processed in a preferred way in accordance with the learner's habitual characteristics. Sarasin (2006) described learning styles as a certainly specified pattern of behavior to which individual approaches a learning experience. Dunn and Dunn (2008) defined it as "a term which describes the variations among learners in using one or more senses to understand, organize and retain experiences" The above definitions asserted that learning styles have same characteristics that are each learner has a preferred way of learning.

Learning Style refers to the preference or disposition of an individual to perceive and process information in a particular way or combination of ways. It is the way individuals process, absorb and retain information or skills, regardless of how that process is described. It is dramatically different for each person (Njoku and Abdulhamid, 2016). Sabatova (2008) stated that human beings naturally possess different learning styles and are capable of learning in almost any style; however, they adopt the one which they feel most comfortable with. The terms approach, way and preference have been used to refer to environmental, effective and physical conditions under which a student is likely to learn. Thus, learning styles are concerned with how students prefer to learn not what they learn. Learning styles

help students' to become aware of their own learning style preferences, yet encouraging them to develop preferred styles which may suit different learning activities. Learning style is defined as the manner and the conditions under which learners most efficiently and effectively perceive, process, store and recall what they are attempting to learn **(**Zhou, 2011).

Jahiel (2008) defines learning styles as the way in which individuals process information and analyze it. He further explains that individuals do not rely on one type of learning styles but some of them have one primary learning style and others have more than one learning style. Individuals observe, process, and analyze the information by using one or more learning styles in order to have a complete comprehension process. Saadi (2012) defines learning style as all the elements a learner needs to achieve his or her educational goals. He further stated that "learning style is the natural ability of a learner to adapt to his or her sensory receptors to the available learning environment in order to absorb information and process it according to his or her experiences and subsequently share the output with society". Petrus-Vancea (2009) stated that "learning style refers to the simple preference of a method of how an individual learns and remembers a concept"

2.2.2 Concept of Shorthand

Shorthand is any system of rapid writing using symbols or shortcuts that can be made quickly to represent sound. Shorthand has been variously known as stenography (close, little or narrow writing). Redmond (2008) considered shorthand as any system of writing that is rapid and concise enough to enable the writer to keep pace with normal speech. Usually, strokes, abbreviations and special characters are used to represent spoken sound. Vundi, Nasongo, and Majanga (2011) stated that shorthand is a phonetic language where sounds are represented using designated stokes, dots and dashes. Ezenwafor (2009) opined that shorthand enables secretaries to write spoken words at such a speed as high as 100 and 120 words per minute.

Shorthand was explained by Adeluola (1994) as a system of rapid writing which involves the use of signs and symbols to represent spoken sounds, also the use of a combination of conventional letters of English plus arbitrary symbols as in speed writing. Based on the definitions given above by different people, shorthand is a system of speed writing which economizes time and space by representing spoken sounds with signs for efficient transcription. It is a shorter way of writing using signs and abbreviations in order to keep pace with the speaker.

2.2.3 Concept of Academic Performance

Performance is the outcome of education. It is the extent to which a student, teacher or institution has achieved their educational goals. To students, in particular, performance is the extent to which they achieve certain goals during their educational training (Annie, Howard & Mildred, 2015). In agreement with this, Ibrahim (2011) stated that performance is what students achieve in their studies, and how they cope with or accomplish different learning tasks given to them by their teachers. Otoo (2007) stated that performance is the capacity to achieve when one is tested on what he has been taught.

Performance is an outcome of educational training. Abdulsalam (2006) asserted that performance is commonly measured by examination or continuous assessment or Cumulative Grade Point Average (CGPA) of students. In line with this, Gouch (2009) opined that, academic performance refers to the way and manner students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. In agreement with this, Ibrahim (2011) stated that success is measured by performance in educational institutions or how well a student meets the standards set out by the institution. Academic performance is the degree of pass or failure of students over a period of time. It could be for a day, week, month, term or session.

2.3 Learning Style Types/ models

Learning styles types/ models refer to the diverse styles of learning, people use for the purpose of gaining knowledge. Learning style models describe the extent of the learning approach used by individuals in learning different subjects or topics. Assumptions and foundations of learning style models are different from each other. The basic tenets of each of the learning style models are diverse and may influence the learning attitude of students. Sim & Sim (2002) revealed that in the face of the variance in learning style model there are numerous interrelated factors and mutually supportive concepts between them.

There are several perspectives about learning styles. One of which is the sensory preferences. Sensory preferences or modality are the physical channels through which students take in and perceive new information: eyes, ears, and touch are directly related to this modality. Sensory preferences, individuals tend to gravitate toward one or two types of sensory input and maintain dominance in one of the following types namely, visual learning styles, auditory learning styles and kinesthetic learning styles. The perceptual modality approach aspect of Reid's model which categorized learning style into three categories, namely: VAK acronym for visual, auditory and kinesthetic learners was employed for this study.

2.3.1 Visual learning style

A visual learner has a preference for seeing or observing things, including pictures, diagrams, demonstrations, displays, handouts, films, and flip-chart. These people will use phrases such as 'show me', 'let's have a look at that' and will be best able to perform a new task after reading the instructions or watching someone else do it first. These learners absorb information most effectively if it is provided through the visual channel. Thus, they tend the to prefer reading tasks and often use colorful highlighting schemes to make certain

information visually more salient. In general, visual learners like visual stimulation such as films and videos.

Fleming (2007) is of the opinion that visual learners have a preference for seeing (think in pictures, visual aids like diagrams, overhead slides, and handouts). Visual learners think in pictures and learn best in visual images. They depend on the instructor's or facilitator's non-verbal cues such as body language to help with understanding. Sometimes, visual learners favor sitting in the front of the classroom. Visual learners use visual aids, such as graphs and diagrams, to assist them in putting material into perspective. Such visual aids can make it much easier to remember content later than if they had just heard the information. Visual learners need to see the material in order to understand it. Preferred test styles for visual learners are essays, maps, and diagrams while the worst test types for them listen and respond style (Ldpride.net, 2008).

Materna (2007) suggested that visual learners learn best by viewing information presented in formats such as demonstrations, videos, and films. Mayzler and McGann (2010) explained that the visual learner is the person who learns best when she or he is seeing the information, the brain absorbs the information best when the information is delivered through the eyes. Stash (2007) defined visual learners as people who prefer pictorial information. According to Reid (1998), Visual Learning primarily learn with eyes, they remember what is seen and retrieve details and events by concentrating on them and he suggested that instructors could use pictures, filmstrips, computers, films, videos, graphs, charts, transparencies, diagrams, drawings, books, and magazines (provide resources that require reading), and written assignments and evaluations.

According to Walsh (2011), visual learners learn best through seeing and prefer information to be presented visually in the form of pictures, posters, maps, diagrams, and film. Lectures do not work well for them. They get nothing from merely hearing information.

They usually tend to sit in the front of the classroom, take notes, use lists to organize their thoughts and observe teacher's body language and facial expressions to fully understand. They like to be left alone when reading or studying because they are easily distracted by noise. They have a neat appearance and so is their handwriting. They also love colors and show interest in the world around them.

2.3.2 Auditory learning style

According to Pritchard (2009), auditory learners learn best through hearing and listening. They prefer to collect and confirm information via listening. They learn best when the teacher explains orally and when participating in speaking activities. The classroom activities they like to participate in a discussion, debates, role play and problem-solving. They read and talk to self-aloud, discuss ideas verbally with others and recite information over and over to better realize the learning material. They benefit from formal lectures, repetition, questions and sequential presentation. Majority of auditory learners are talkative, conceptual, reflective and memory-oriented. Auditory learners tend to absorb information in a more efficient manner through sounds, discussions, teachings. These individuals will be more likely to record lectures so that they can replay them at a later time for study purposes, they also discover information through listening and interpreting information by the means of pitch, emphasis, and speed. They also gain knowledge from reading out loud in the classroom and may not have a full understanding of the information that is written (Ldpride.net 2008).

Auditory learners appreciate books on tape and may find that reading aloud will help them to retain information rather than written reports, auditory learners tend to do better on oral presentations and reports. Auditory learners learn by listening to lectures, discussions, tapes, audio information is their preferred presentation method. Kapp et al (2001) stated that the best ideal learning situation for aural students is when data is delivered through lectures, discussions, conversations in class or in a recorded format. Blerkom (2008) suggested that

aural learners prefer to listen to lectures before reading lecture notes and they understand the information most easily after listening and asking/answering questions out loud. Conroy (2007) indicated that: they have excellent listening skills, not only recalling what was said but also having the ability to catch nuances in words, tone, inflection and overall meaning from the speaker. He often sings or talks to him or herself, repeating what he or she heard.

Sarasin (2006) stated that auditory learners have a preference for the transfer of information through listening: to the spoken word, of self or others, of sounds and noises. These people will use phrases such as 'tell me', 'let's talk it over' and will be best able to perform a new task after listening to instructions from an expert. These are the people who are happy being given spoken instructions and can remember all the words to songs that they hear. They most effectively use auditory input such as lectures or audiotapes. They also like to talk the material through by engaging in discussions and group work. Auditory Learning primarily learns with ears, they recall at least 75 percent of what is discussed or heard in a normal classroom. (Reid, 1987), suggested that the instructor could use tapes, videotapes, records, radio, television, and precise oral directions when setting tasks or for any aspect of the task requiring understanding, performance, progress, or evaluation.

2.3.3 Kinesthetic learning style

Kinesthetic (K) learners (also known as tactile learners) use body movements and bodily sensations to learn. Tactile/kinesthetic learners have learning preference for experience, moving, touching and doing. Gerdy (2001) stated that kinesthetic learners are students whose instructional preferences center on activity. Dreeben (2010) defined the kinesthetic style as having "to do with the physical experience of touching, feeling, holding, doing, and practical hands-on experience. The learner prefers kinesthetic stimulation for learning to occur". Furthermore, Materna (2007) detailed that these learners prefer hands-on activities such as experiments and practice, and they depend on self-study techniques when

they learn or recall information. They favor interaction with the physical world. Similarly, Lobb (2003) stated that movement is one of the requirements for a kinesthetic learner. Guffanti (2009) described kinesthetic learners as learners who look deeply into the pieces of something and sense how they fit together. Projects that are hands-on in nature are best for kinesthetic learners. Kinesthetic learners tend to become frustrated when they must sit for long periods of time. They enjoy conducting experiments, exploring and performing tasks (Ldpride.net 2008).

According to Reid (1998), kinesthetic learners have a preference for physical experience-touching, feeling, holding, doing, and practical hands-on experiences. They use phrases such as 'let me try', 'how do you feel?' and will be best able to perform a new task by going ahead and trying it out, learning as they go. These are the people who like to experiment, hands-on, and never look at the instructions first. Kinesthetic Learners primarily learn through the sense of touch, hands-on tasks and experience, kinesthetic learners who use the body to experience, do and become involved with the specific learning Students with kinesthetic/tactile perceptual strengths need to underline as they read, take notes when they listen, and manipulate the material when possible, writing notes or instructions can help them remember information (Dunn, 1988).

2.3.4 Other Learning Style Types/ Models

Apart from Reid (1987) perceptual learning styles model, there is other learning styles model recognized in the literature which is as follows:

2.3.4.1 Dunn and Dunn Learning Style Model

The Dunn and Dunn learning style model is classified into five categories. According to Dunn and Dunn (2008), these categories are called stimuli. The Dunn and Dunn model describe the five basic stimuli, each of which possessing some elements that can directly

affect an individuals' ability to master new or difficult information or skills. The five stimuli are as follows:

Environment: Ryner (2000) explains that environmental stimuli consist of a light element, a sound element, a design element and the temperature. These stimuli include preferences for loud versus quiet, low versus bright lights, warm versus cool temperature and formal versus informal settings (Dunn and Griggs 2000).

Emotional states: the elements of these stimuli as including motivation, persistence, responsibility, and structure. These stimuli relate to high or low motivation, persistence, responsibility, and preference for structure and choices (Dunn and Griggs 2000).

Sociological: These include preferences for variety versus a patterned or routine way of working and the desire to work alone or in groups or pairs under the supervision of an authoritative adult (Dunn and Griggs 2000). Ryner (2000) analyzed students' behavior according to elements in these stimuli; self-element, pair element, peers element, team element, adult element, and varied element. These elements of learning style are related to the preference of students for engaging in different types of tasks during the course of learning. The preference of the student for routine work or for a mixture of different processes during learning is also evaluated.

Physiological: This includes perceptual strengths, as well as preferences over time of day, intake of food and mobility (Dunn and Griggs 2000). Hall (1993) stated that this element consists of a perceptual element which mainly emphasizes viewing, listening and touching. Intake is the second element in this category which relates to the requirement of eating and drinking during the learning process. The time element refers to a student's energy level during the day at varied time periods or intervals. The last element is mobility. In this element of learning style preference, students' ability to sit for a long period of a specific duration

when they are interested in the topic at hand is analyzed. This element is related to the level to which students prefer to move their body while learning.

Psychological: indicating processing tendencies. Two elements of learning styles are grouped in these stimuli (Dunn and Griggs 2000). Ryner (2000) showed these elements as global versus analytical. This element is concerned with identifying whether students learn most effectively when they reflect on the total topic of learning or when they approach the task in a sequential way. Students who are interested in global learning are more concerned with the end outcomes and the total meaning. Students with analytical preferences, however, prefer one detail at a time. The third element is impulsive versus reflective. This element relates to the pace of thinking. The preference of students to draw conclusions and make a decision quickly is analyzed.

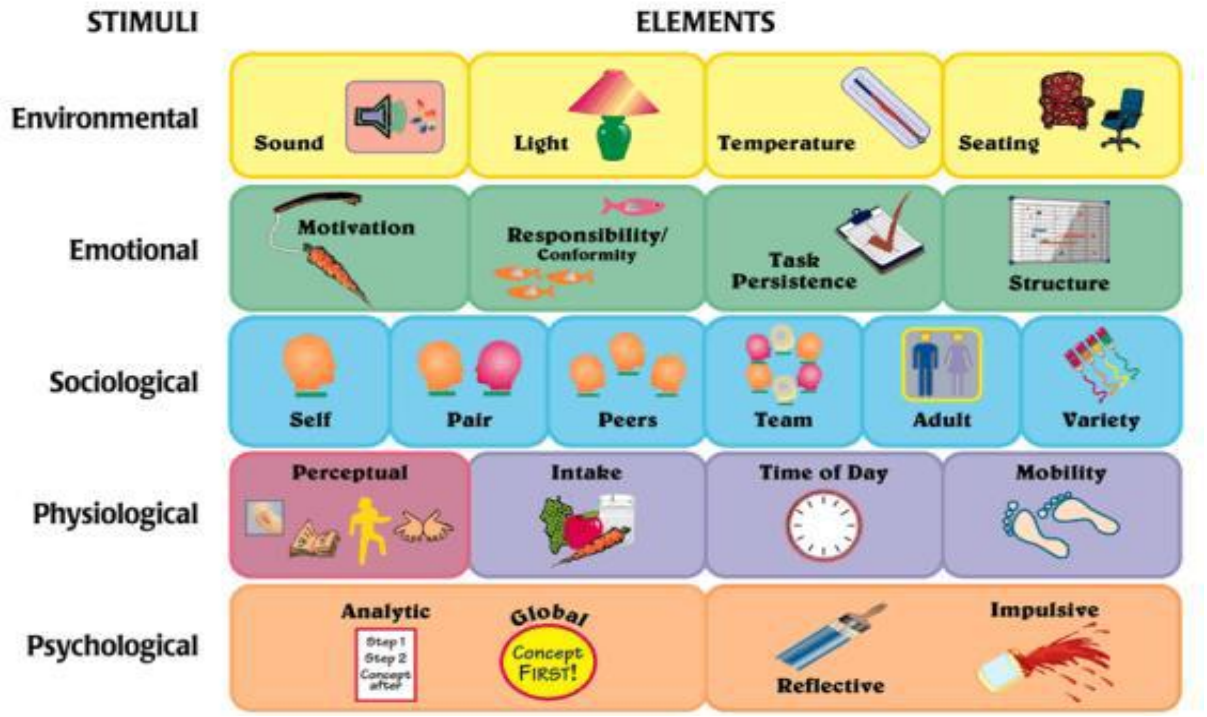


Figure 1: Dunn & Dunn-learning styles' model

Source: www.learningstyles.net

Reese and Dunn (2008) conducted a study with the aim of identifying learning style preferences of undergraduate freshmen students and determining the relationship between gender and academic achievement, specifically in terms of grade point average (GPA). The results identified several common learning style preferences among freshmen students, these being preferences for sound, light, temperature, motivation, and responsibility. The study reported significant correlations between students learning styles and academic achievement. Furthermore, the study was able to determine that the highest academically achieving freshmen students prefer to work alone or with an authoritative figure during the late morning or early afternoon, while those who have a relatively high level of academic achievement prefer a formal and well-lit learning environment. Also, those who have the lowest level of academic achievement have preferences for studying or learning in the evening with sound or a conversation with other peers in the background. They also preferred motivation and mobility while learning. In terms of gender, the researchers reported that male respondents prefer to learn with an authoritative figure and a learning environment that allows mobility and structure. They also prefer to learn in the afternoon. Female respondents, on the other hand, prefer a learning environment with bright lights, a warm temperature a formal setting, and with a variety of instructional means. They also prefer to work independently or with a few peers. It was also determined that they were auditory, tactual and kinesthetic learners who prefer to work in the morning.

Similarly, Morton-Rias *et al* (2008) examined the learning styles of students who enrolled in an allied health course. The study determined the relationship between learning style preferences and age, ethnicity, and gender. The study identified learning style preferences for sound, light, temperature, seating design, food intake, time of the day, mobility; and auditory, tactual and kinesthetic stimuli. Furthermore, it was determined that male allied health students have preferences for cool temperatures, mobility and learning in

groups while female students preferred an auditory learning style. Tully, Dunn & Hlawaty (2006) conducted a study to determine whether teaching methods and learning material based on the identified learning style preferences of students is better than traditional teaching methods. The study showed that those who were taught based on their learning style preferences had better performances than those who were taught using traditional teaching methods.

The previous studies provided some evidence about the capacity of the Dunn and Dunn theory to determine learning styles. This theory was widely used to assess preferred learning styles, especially for young children.

2.3.4.2 Kolb's Learning Style Model

This learning style is based on Kolb's Experiential Learning Theory, which states that the learning process is composed of four stages, each having its own individual learning style preference. According to Kolb (1984) his perspective on learning is called experiential for two reasons; first, "to tie it clearly to its intellectual origins in the work of Dewey, Lewin, and Piaget," second "to emphasize the central role that experience plays in the learning process"

Kolb (1984) categorized the four stages of a learning cycle as: Concrete experience refers to the process of learning where an individual learns through actively experiencing an activity. Reflective observation refers to the learning process where an individual learns through conscious reflection about the activity. Abstract conceptualization pertains to the learning process where an individual learns by being presented with a theory or model that has to be observed. Active experimentation refers to the learning process where an individual learns by testing a theory or model. It is also implied that each individual has his own strengths within each of the four stages and this is the basis of his preferences for learning style (Bell & Griffin, 2007).

Sim and Sim (2002) noted that within Kolb's theory of learning proceeds as a cycle and as a result of the combination of the four forms. Students have to be active and involved with new experiences, with the learning cycle of Kolb's learning theory. Therefore, the basic assumptions of Kolb's cycle or learning sequence is that learners can achieve when they are active and that they can be accountable for their learning and implement their knowledge. The Kolb learning style theory identifies four types of learning styles, labeled as divergent, assimilator, convergent, and accommodator. Dornyei (2005) described the four types of learners as pure and extreme cases, as Individual learners may display some combination of the four types.

Divergent Learners: According to Kolb, Boyatzis and Mainemelis (2000) learners who are between concrete experience and reflective observation are designated as divergent or reflectors. Danish and Awan (2009), Russian (2005) described divergent learners through their capacity to view a situation from various perspectives, being highly dependent on brainstorming. They are the opposite of convergent and their strengths lie in their creative, imaginative, and innovative natures. They perform well in concrete situations and have the ability to generate a large number of ideas through brainstorming. They are more interested in people rather than things. They think deeply about experiences and learn from these, and like to receive constructive criticism since they value feedback highly. They are also interested in careers like arts and humanities. These kinds of learners are interested in other members of society and tend to be emotional and inventive. Students who follow a divergent style of learning are inclined to be strong in art and prefer to work in groups

Assimilators learners: are learners who are between reflective observation and abstract conceptualization (Kolb *et al* 2000). According to Danish and Awan (2009) assimilating prefers logical and concise approaches to solve problems. Their strength lies in their excellence in inductive reasoning. In addition, they are more interested in abstract

concepts than things or people. They think more than they act. They much prefer lectures as a mode of teaching and are in careers like research and planning. They are less interested in other people and more concerned with abstract concepts and ideas.

Convergent or pragmatic learners: are between abstract conceptualization and active experimentation. Danish and Awan (2009) indicated that convergent learners are highly dependent on deductive reasoning. These kinds of learners are able to solve problems and will utilize their learning to discover the solutions to practical issues. They delve into situations where there is a single answer or solution to a question. They are also unemotional in nature and prefer to deal with things rather than with people. They also prefer to work alone, think cautiously and act independently. They are interested in the physical sciences, engineering, or computer sciences.

Accommodators or activists are learners who operate between active experimentation and concrete experience (Kolb et al. 2000). Accommodators are those who perform active experimentation and carry out plans and strategies. They are risk takers in nature and excel in situations that require quick decisions and adaptations. They are also intuitive in nature and solve problems using trial and error. They are dependent on other people as sources of information and are more action-oriented than thinking oriented. These learners are concerned with new experiences and challenge them in accomplishing stated plans. They are interested in careers like nursing, teaching, marketing or sales.

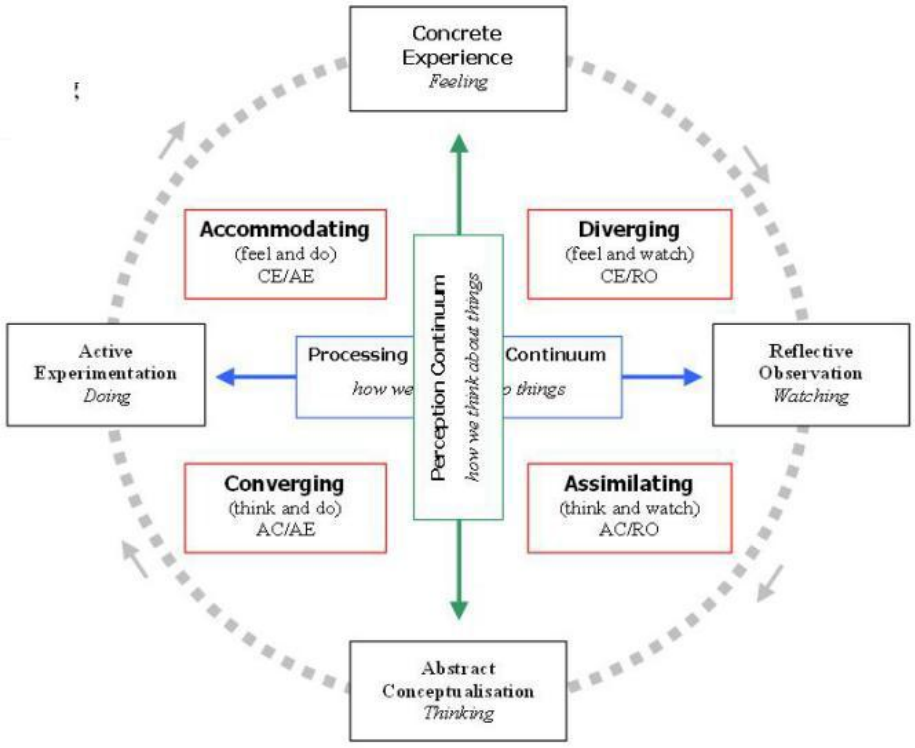


Figure 2: Kolb learning styles' model

Source: www.businessballs.com.

Gorrha and Mohan (2010) aimed to understand the learning preferences of business school students based on Kolb's theory of learning style preference. The results of their study showed that the majority (70 %) of their respondents highly valued lectures as part of their learning style preference. Danish and Awan (2009) conducted a study among medical students using Kolb's Learning Styles Inventory. The results indicate that the respondents prefer assimilating and convergent learning styles. Novin, Arjomand, and Jourdan(2003) conducted a study to determine the learning style preferences of accounting management, marketing and general business major students using Kolb's Learning Style Inventory. The results of the study showed that a majority of the respondents in all four major courses preferred assimilating and convergent learning styles. A study by Galpin, Sanders, and Chen (2007) also used Kolb's Learning Style Inventory to determine the learning style preferences

of computer science students in a South African University. The study suggested that the majority of students prefer an abstract approach in their learning process and very seldom prefer a reflective or active learning style. According to Kolb's model, the study found that the majority of respondents were converged or assimilators in terms of their learning style.

In summary, Kolb's learning styles theory proposes four types of learner: assimilator, convergent, divergent and accommodator. Research using this model has identified convergent as the more common learning style. The convergent learner featured in this theory is close to the kinesthetic in VAK models.

2.4 Learning Styles and Students' Academic Performance

There have been many attempts made to enhance students' academic performance. It has always been the main concern of many teachers and parents that their students and children be as much success as possible. In relation to this, many teachers are convinced that students need the positive attitude to succeed academically. Often, one's learning style is identified to determine strengths for academic achievement. Bidabadi and Yamat (2010), Sabatova, (2008), indicated that students' earn higher scores on standardized achievement and aptitude tests when they are taught within the realm of their learning styles.

Romanelli, Bird, & Ryan (2009) discuss the importance of learning styles as being not only necessary but also important for individuals in academic settings. Most students favor learning in particular ways with each style of learning contributing to the success in retaining what they have learned. It was concluded that students retain 10% of what they read, 26% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they say, and 90% of what they do. Indeed, Omrod (2008) reports that some students learn better when information is presented through words (verbal learners), whereas others seem to learn better when it is presented in the form of pictures (visual learners). According to Rayneri and Gerber (2004), students learn more when information is obtainable in a variety of approaches

than when only a single approach is applied. Walsh (2011) also believes that low achievers tend to have poor auditory memory. Although they often want to do well in school, their inability to remember information through lecture, discussion, or reading causes their low achievement especially in a traditional classroom environment where teachers dominate and students mostly listen or read. It also revealed that matching teaching and learning styles can significantly enhance the academic achievement of students.

Exploring the relationship between learning styles and academic performance is a controversial issue that requires further investigation Cano-Garcia and Hughes (2006). Hall & Mosely (2006); Cassidy (2007) and Collinson (2007), stated that Learning Styles are among the factors that play a vital role in affecting academic performance. Harb and El-Shaarawi (2006) indicated that Learning Styles play a role in the classroom performance of gifted middle school students. Omrod (2008) carried out a study on the effect of Learning Styles on students' academic performance. They found a significant relationship between the two variables. Ahmed (2012) found that matching students' learning styles helped improve the performance of students in writing skills. Al-Khatani (2011) study revealed no clear correlation between the students' preferred styles and their choice of instructional mode. However, students' satisfaction and success, as well as their positive and negative learning experiences, did correlate with their learning style preferences.

Abu-sharbain and Jahaish (2010) reported that there was a significant correlation between performance and auditory learning style, but there was no significant correlation between performance and visual and kinesthetic learning styles. Tight (2007) revealed that college students learning English performed equally well on vocabulary tests regardless of perceptual Learning Style preferences. Gilakjani and Ahmadi, (2011) reported that understanding the learning style helps learners in learning how to learn. Thereby, learners become more autonomous and accountable for their own learning. Consequently, learners'

confidence will increase and teachers control over learners will lessen. Learners become the center of the learning process and control their learning while teachers act as facilitators.

Yazicilar and Guven (2009) conducted a study among fifth-grade students in a social studies class to determine the relationship between learning style preference and academic achievement. A sample of 50 students participated in the study, divided into an experimental and control group. The experimental group was those who received an educational included audio, visual and teaching practices materials, while the control group received educational using teacher-centered and primary school program methods. The results showed significant differences between the experimental and control groups in terms of academic achievement and retention.

A study by Bahar (2009) was also conducted among 14-year-old seventh-grade students to examine the relationship between learning styles and performance in mini science projects. A sample of 80 students from two different primary schools responded to a Grasha-Riechmann learning style scale. The instrument consists 60 items with a five-point Likert scale to evaluate six learning styles; competitive, collaborative, avoidant, participant, dependent and independent. A MANOVA was conducted to examine the relationship between students' learning styles and their academic achievement in the mini projects. The result showed a statistically significant connection between learning style and performance in mini projects. The study was able to determine that those who belong to high achiever groups were independent, competitive and participative in nature, while those who had relatively lower achievement level were avoidant, dependent and learned best in collaborative groups.

Crosley (2007), compare student achievement of those who attended traditional classrooms with those who attended multisensory classrooms. The researcher used a multisensory instructional package to determine the sensory styles of the students. A sample of 282 middle school students was divided into a control group with traditional teaching

techniques and a test group with multisensory teaching. Students in the multisensory instructional classroom were taught using an instructional strategy incorporating self-correction, task cards, electro-boards, pic-a-holes, flip chutes (kinesthetic floor game) and programmed learning sequences. A pre-test was conducted with both groups, after which students learned three units of science using the teaching technique of each particular group and were tested on their knowledge. Then, the researcher switched the groups so that the control group learned the next science units using a multisensory technique and the students who were in the test group learned the same unit using traditional teaching techniques. Students in both groups also took pre and post-tests to assess their learning. The ANOVA result showed a positive and significant impact on achievement with students learning more and having a better attitude to learning when they were in the multisensory classroom. Kia, Aliapour, and Ghaderi (2009) found high academic achievers have social, aural and solitary learning styles, while low achievers use logical and physical styles. Alkhasawneh et al (2008) indicated that students with multimodal learning styles achieve higher than others

Abdulkadir and Din (2006) used a Kolb inventory to evaluate the interaction between learning styles and academic achievement among secondary school students in Malaysia. A sample of 241 students from two urban secondary schools participated in the study. Students were grouped based on academic achievement, with 123 students in the high achiever's group and 118 in the low achiever's group according to their results in the Malaysian public school examination. A t-test analysis was conducted and the results did not show any significant differences between high and low achievement groups, which signifies that students' learning styles those not have effects on academic achievement. Hlawaty (2008) compared three academic achievement groups (low achievers, high achievers and gifted) and learning styles based on the Dunn and Dunn learning style theory. The MANOVA identified significant differences between the three academic achievement groups. Furthermore, the MANOVA

result showed significant differences among all three pair-wise combinations of the achievement groups. The study reported that gifted students were less parent and teacher motivated while high and average students were more mobile, and low achievement students were more authority and teacher-oriented.

Lincoln and Rademacher (2006) investigated differences between 33 male and 66 female students based on the VARK framework. The study used ANOVA to further verify if there is a significant difference between the learning style preferences of male and female learners. The result indicated that female learners preferred to learn using their auditory senses while male learners learn best when note taking (read/write learning styles). Roig (2008) conducted a study among biology students at a South Florida multicultural college. A sample of 162 students was selected by choice of subject classes. Data were examined using Felder-Solomon learning styles with the faculty supplying the researcher with final student grades at the end of the course. Students preferred sensing, visual and sequential learning styles. The ANOVA was used to assess the mean differences between academic achievement and learning styles with results showing no significant difference. The study also concluded that no relationship existed between preferred learning styles and academic achievement.

Charles (2008) used an adapted questionnaire of Honey and Mumford learning style. The questionnaire examined four learning styles; Activist, Reflector, Theorist, and Pragmatist. Each style had 20 questions in a six-point Likert scale. 34 Indonesian students, 41 Chinese students, and 38 French students responded to the questionnaire. The major aim of the researcher was to examine the relationship between learning styles, culture and academic achievement. The result showed statistically significant differences in learning styles between three groups for three learning styles out of four - activist, reflector, and pragmatist all had a medium effect size. In particular, Indonesian students were low on the activist scale and high on the reflector scale. Chinese students were highest on the theorist scale and had the same

preference for activist as Indonesian students, while French students leaned more towards the pragmatist learning style. The result also showed significant interaction between cultures and academic achievement. It was also found out that there is no significant interaction between culture and learning styles.

By using the VARK, Ramayah et al. (2009) were able to determine the influence of gender on the learning style preferences of business students. The study used convenience sampling in order to test respondents in a business school, and the results of the study showed that gender influences the preferences of students. Furthermore, the study was able to determine that female business student have more of a tendency than male business students to use visual and aural learning styles. A study was conducted by Kia *et al* (2009) to determine the relationship between learning style preferences and the academic achievement of Iranian students at Payame Noor University (PNU). The study used memetics learning style inventory, which categorized students into seven groups; according to their learning style. These categories were: visual, verbal, aural, physical, logical, social and solitary. The study showed that most male students preferred a verbal learning style, followed by solitary. The majority of female students, however, preferred aural learning followed by verbal, visual and logical learning style.

Slater, Lujan & DiCarlo (2007) examined learning styles among first-year medical students to determine if there was a difference in learning style preferences in terms of gender. The study used the VARK learning model and achieved a 38.85% respondent rate (97 of 250 students). The study showed that both male (56.1 %) and female (56.7 %) respondents preferred multiple means of information presentation. In terms of single styles, female students preferred visual, aural and read/write learning more than males. Although the study determined that female first-year medical students preferred variety more than male students,

the researchers noted that there was no significant difference according to gender learning styles and performance.

A study conducted among five faculties at Bilkent University First Year Students has contributed to the field of learning styles in education (Erton, 2010). The study was conducted among 102 freshman students between the age of 18 and 23 who responded to the Jeffrey Barsch‘s Learning Style Inventory and their test scores were used to calculate the statistical coefficient between the two variables. The study showed that there is a weak positive statistical relationship between the learning styles of the students and their achievement in a foreign language (English 101 course) with a correlation coefficient of 0.306. Although these studies were conducted based on different learning style models, that is, cognitive learning styles, sensory learning styles, and personality styles, the results show a positive relationship between learning styles and academic achievement regardless of the model used.

A research conducted in 2011 was an investigation of the relationship between learning styles and academic achievement (Abidin, Rezaee, Abdullah, & Singh, 2011). In order to investigate this relationship, a total of 317 students in an Islamic school in Malaysia participated in this survey study. The Learning Styles Survey (LSS) instrument which is based on Joy Reid‘s Perceptual Learning-Style Preference Questionnaire (1987) was used. The statistical procedures employed in this study were one-way ANOVA and multiple regression analysis. The analyses of the data indicated a significant relationship between overall academic achievement and learning styles. It was also found that the high, moderate and low achievers have a similar preference pattern of learning in all learning styles.

A closely related study that investigated the impact of learning styles on the academic achievement of secondary school students in Iran (Jilardi, 2011) has also contributed to the learning styles discourse. The Kolb Learning Style Inventory (1999) was administered in

eight public schools in Tehran. The mean of test scores in five subjects, namely English, science, mathematics, history, and geography, was calculated for each student and used as a measure of academic achievement. A total of 285 Grade 10 students were randomly selected as sample of the study. The results of the analyses of variance showed that there is a statistically significant difference in the academic achievement of the Iranian students that correspond to the four learning styles; in particular, the mean scores for the converging and assimilating groups are significantly higher than diverging and accommodating groups.

Albina (2013) investigate if there is any significant relationship between academic achievement and linguistic, logical, spatial, musical, kinesthetic, interpersonal and intrapersonal learning styles of the students. Random sampling technique was adopted to select a sample of 250 students from high schools in Ramanathapuram Educational district, and the self-made standardized tool was used to collect data. The result revealed that there is no significant relationship between academic achievement and linguistic, logical, spatial, musical, kinesthetic, interpersonal and intrapersonal learning styles of school students. Khalid (2013) conducted a study on learning styles and academic achievements among arts and science stream students. The main objectives of the study are to seek if students' academic achievement has any significant relationship with their learning styles. The study shows that there is no significant relationship between learning styles and academic achievements. Clark and Latshaw (2012) indicate that learning and teaching styles affect student performance.

A study conducted by (Gappi, 2013), explored the student‘s preferred learning styles and their academic achievements. The specific objectives of the study were to: describe the learning style preferences of the students; to find out whether learning style preferences of the students differed with age, gender and academic program; and determine the relationship between the learning style preferences and the students’ academic performance. The participants of the study consisted of all the freshman students who were accepted during the

first trimester of the academic year 2012-2013, composing of 118 national youth and 13 young adults. Results showed that there was no significant effect of gender, age and academic program on the learning style preferences of the students. Based on the result, there was no significant statistical correlation between the academic achievement and the learning style preferences of the students. Similarly, Khan and Iqbal found out that students learning style those not have a relationship with their learning styles. Ariffin et al (2014) reported that there is no statistically significant relationship between learning styles and students' course performance. Warn (2009) also found no significant relationship between students learning styles and their academic achievement in taxation

Vaishnav and Chirayu (2013) conducted a study on the analysis of learning styles prevalent among secondary school students, the objectives of the study was to also find out the relationship and effect of different learning styles on academic achievements of students. It was conducted on three learning styles-visual, auditory and kinesthetic (VAK). A sample of 200 students of class 9th, 10th and 11th standard of Maharashtra state was randomly selected for the study, Howard Gardner's VAK learning style brain box and VAK Learning Style Inventory by Victoria Chislett and Alan Chapman was used to identify the preferred learning style of students. The correlation between academic achievement and learning style was determined using Pearson's product moment coefficient of correlation method and ANOVA F test was used to identify the effect of learning style on academic achievement. Findings of the study revealed that kinesthetic learning style was more prevalent than visual and auditory learning styles among secondary school students. There exist a positive high correlation between kinesthetic learning style and academic achievement. The visual and auditory learning styles have a positive relationship but not strong. The main effects of the three variables - visual, auditory and kinesthetic are significant in academic achievement.

A study conducted by Gokalp (2013) evaluated the learning styles of the faculty of education students and determined the effect of their success and relationship between their learning styles and academic success. The population of the study comprised of the students from the Faculty of Education at May University and the sample included 140 students, among whom 68 were art and 72 pre-school teacher department, students. There was a significant difference between the scores of pre-tests and post-tests. The significant relationship between the scores of post-test and the student success revealed that they learned how to study effectively. The study found out that statistically significant differences existed between the results of the first and final applications of the subtests on learning styles and academic success. The relationship between the scores of post-test and grades was reduced to a very weak negative correlation.

Oommen (2015) conducted a study on learning style and academic achievement in the biology of secondary school students. The result shows that the correlation between learning style and academic achievement of secondary school students was 0.74 which was significant 0.01 levels. This indicated that there existed a significantly high correlation between the variables. Therefore the relationship between learning style and academic achievement is high. The comparison of male and female students under study was done by selecting 135 boys and 165 girls for the variable Academic achievement. The result shows that there is no significant difference between boys and girls with regard to academic achievement. The t-cal obtained by t-test is 1.36 is found to be not significant. This shows that there is no significant difference between boys and girls in their academic achievement. The study also found out that there is no significant difference between boys and girls in their learning style.

Ibe (2015) ascertained the effects of learning styles on the performances of Senior Secondary School Biology students in Imo state, Nigeria. The study adopted the quasi-experimental design. The sample consisted of 300 SS II Biology students comprising of (150

males and 150 females) obtained through simple random sampling in three schools (100 students per school). Kolb Learning Style Inventory (LSI 1999 version) was used for the identification of the students' learning styles. Findings from the study showed that the four learning styles of Kolb were represented amongst the biology students; that many students preferred to learn by more than one mode of information presentation; learning style varies from one group to another and there is no significant difference in the biology mean scores of the students with interaction between learning styles and their academic achievement.

2.5 Factors Affecting Students' Academic Performance

Many factors affect students' academic performance. Some of these factors are:

2.5.1 Teaching Methods

According to Ayeni (2011), teaching is a continuous process that involves bringing about desirable changes in learners through the use of appropriate methods. Adunola (2012) indicated that in order to bring desirable changes in students, teaching methods used by educators should be best for the subject matter. Furthermore, Bharadwaj and Pal (2011) sustained that teaching methods work effectively mainly if they suit learners' needs since every learner interprets and responds to questions in a unique way (Chang, 2010). Ganyaupfu (2013) reported that teaching methods adopted by teachers in a teaching/ learning process significantly affect students' performance. Adunola (2012) is also of the same view that methods of instruction used by the teacher greatly influence students' academic performance.

2.5.2 Home Background

A child's first educational experiences are centered in the homes; his ideas, attitude and the general pattern of behavior are as a result of his childhood rearing. The variation in the academic attainments of students could be related directly to differences in the home and its influence. Adesehinwa (2013) found that 88% of students' from the extended family situation were influenced by grandparents, aunts, and uncles in the discipline at home, 92%

complained of lack of a clear standard to follow, 91% complained of being unable to study at home because of their being sent on errands by relatives. The study also found out that 78% justified the need to lie as a means of escaping blames and punishments from all sides and 75% admitted regular stealing. The extended family system appeared to be the less favorable than unclear family for the emotional and academic well-being of the child. Some polygamous homes burden children with domestic duties that they had little time left for rest or study. In some cases, the children from polygamous home were left to care for their younger ones, which prompted their inability to attend school and affect their academic performance. Studies carried out by Mok and Flynn (2008) show that parents level of education made a significant contribution to student achievement. Hijaz and Naqvi (2006) observed that there is a negative relationship between the family income and students' performance

The research of Olubadewo and Ogwu (2006) revealed that parent social economic status greatly influenced the academic performance of their children. Students who attend high social economic status schools also scored better in examinations (Mok and Flynn 2008) Students' background affects their academic success. Also, family stability has been found to exert a serious effect on the students' performance. Divorce, separation and single parenthood affect the children academic performance (Soares and Collares 2006). Raychaudhuri Debnath, Sen, and Majundra (2010), found that students' academic performance depends on a number of socio-economic factors like students' attendance in the class, family income, mother's and father's education, teacher-student ratio, presence of trained teacher in school, sex of the student, and distance of schools. Students' academic accomplishments and activities, perceptions of their coping strategies and positive attributions, and background characteristics (family income, parents' level of education, guidance from parents and

number of negative situations in the home) were indirectly related to their composite scores, through academic achievement in high school (Noble, Roberts and Sawyer 2006).

Abid (2006) reported that Guidance is of the factor through which a student can improve his study attitudes and study habits and is directly proportional to academic achievement. The students who are properly guided by their parents have performed well in the exams. The guidance from the teacher also affects the student performance. The guidance from the parents and the teachers indirectly affect the performance of the students

2.5.3 Environment

The environment is one of the factors that influence students' academic performance. Students' academic performance is greatly influenced by the environment and the type of school they attend. Eric (2005) postulates that the school environment has a broad influence on students' learning and growth, including a significant aspect of their social, emotional and ethical development. When students find their school environment supportive and caring, they are less likely to become involved in substance abuse, violence, and another problem behaviour. He also indicated that supportive schools foster these positive outcomes by promoting students sense of connectedness, belongingness or community. Owoeye (2011) reported that there is a significant difference between the academic performance of students' in rural and urban school. To him, the geographical location of schools has a significant influence on the academic achievement of students'. Also he pointed out that uneven distribution of resources, poor school mapping, facilities, problem of qualified teachers refusing appointment or not willing to perform well in isolated villages, lack of good road, poor communication, and nonchalant attitude of some communities to school among others are some of the factors contributed to a wide gap between rural and urban secondary schools. Schools located in rural areas lack qualified teachers. It is because they do not want to go to rural areas that lack social amenities. They prefer to stay in urban schools. It is also observed

that a lot of coaching of urban students is done to prepare them for public examinations, thus promoting the spirit of competition and rivalry that may be lacking in the rural pupils, probably, owing to limitations in exposure and experience. Also, the study has proven that students in urban areas had better academic achievement than their rural counterpart. In other word, students in urban locations have a very advantage of favorable learning environment that apparently enhance their academic performance.

Arul and Vimala (2012) conducted a research on the school environment and academic achievement of standard six students. The data from 400 sample participants is used to determine the relationship between school environment and academic achievement. The result of this study indicated that there is no significant difference in the school environment of standard six students in term of gender, the medium of instruction. But there is an important difference in the school environment of standard six students in term of locality of school. The urban students have better school environment than the rural students. The urban students are having a stressful environment in their daily life very much because they are living in the mechanical and hurry burry life. So they feel the school environment is not very convenient for their studies. Therefore, school environment enriched with modern facilities makes the student feel comfortable in their studies that result in high academic performance.

A research by Sunday (2012) revealed that there is a significant relationship between physical school environment and students' academic performance in senior secondary school physics. To him, the physical school environment has some influences on students' academic achievement in senior secondary school physics. The physical facilities, human resources, and the relationship between them determine the physical environment of the school. The result indicated that students with adequate laboratory facilities in physics perform better than those in school with less or without facilities, this simply because laboratory forms part of

enriching the physical school environment. It was also discovered that poor facilities and inadequate space, as well as the arrangement of items including seats in the classroom, library, and laboratory, would affect the organization of the learning environment. Favorable school climate gives room for students to work hard and enhance their academic achievement.

Anta (2013) conducted a research on the school environment and academic achievement of students'. The result of the study indicated that school environment enriched with modern facilities makes the students' feel comfortable in their studies, which result in high academic performance. Orlu (2013) also conducted a research among six hundred teachers and students with the aim to find out environmental influence on the academic performance of secondary school students, in Port Harcourt local government area of river state. The result of this research indicated that the school environment has a significant influence on academic performance. He pointed out that location of the school affects students' performance that is when a school is sited in a noisy area like an airport or in the heart of a city where activities disrupt the teaching-learning of the student. One will not expect such students in this area to be doing well academically. Noise in anything interferes with the teaching/learning process.

Orlu (2013) further reported that the physical structure of the school building and the interactions between teachers and students also influence students' performance. School climate is also a positive influence on the health of the learning environment or a significant barrier to learning. The school environment affects many areas and people within schools. A positive school climate has been associated with fewer behavioral and emotional problems for students. Therefore, it is believed that positive interpersonal relationship and optional learning opportunities for students in all demographic environments can increase achievement behavior. Positive student-teacher relationship brings about a positive and

supportive school climate for students for the smooth running of academic activities which results in good academic performance.

Denial and Felix (2014) examined the impact of the school environment and peer influence on the students' academic performance. The study assessed school environment factors and peer influence in term of the level of psychological impact they have on learners. The school as an institution of learning which also act as a second home for learners has been found to have a strong relationship with students' academic performance. Usaini and Abubakar (2015) findings are in line with other researchers who postulated that the environment significantly affects students' performance.

2.5.4 Teacher

According to Muleyi (2008), teachers do influence students' academic performance. School variables that affect students' academic performance include the kind of treatment which teachers accord the students. Schools are commonly evaluated using students' achievement data (Heck, 2009). Teachers cannot be dissociated from the schools they teach and academic results of their schools. It would, therefore, be logical to use standardized students' assessment results as the basis for judging the performance of teachers. Teachers celebrate and are rewarded when their schools and teaching subjects are highly ranked. While appreciating the value of rewarding teachers who produce better results, teachers should not escape a portion of blame when students perform poorly. It has been proved that teachers have an important influence on students' academic achievement.

Teachers play a crucial role in educational attainment as they are tasked with the responsibility of translating policy into action and principles based on practice during interaction with the students Adeyemi (2010). Wright, Horn & Sander (2006) conclude that the most important factor influencing student learning is the teacher. Teachers stand in the interface of the transmission of knowledge, values, and skills in the learning process. If the

teacher is ineffective, students under the teacher's tutelage will achieve inadequate progress academically. This is regardless of how similar or different the students are in terms of individual potential in academic achievement.

According to Rivkin, Hanushek, and Kain (2005), there has never been consensus on the specific teacher factors that influence students' academic achievement. Akiri and Ugborugbo (2008) have found that there is a significant relationship between teachers' gender and students' academic achievement. Yala and Wanjohi (2011) have found that teachers' experience and educational qualifications are the prime predictors of students' academic achievement. Adesoji and Olatunbosun (2008) found that the teacher factors that significantly contribute to low academic achievement are incidences of lateness to school, incidences of absenteeism, and inability to complete the syllabus. Oredein and Oloyede (2007) conclude that teacher's management of students' homework and assignments have an impact on student achievement, especially when it is well explained, corrected and reviewed during class time and used as an occasion for feedback to students. Perkins (2013) indicates that a teacher's attitude contributes significantly to student's attention in classrooms whereas illustrate that student's attitude is related to teacher characteristics. The implication is that the teacher's attitude directly affect students' attitude. On teacher personality, Adu and Olatundun (2007) contend that teachers' characteristics are strong determinants of students' performance in secondary schools. Scholars and researchers generally are in agreement that the school variables, which include teacher administration, perform a critical role in educational achievement than other variables (Patrick, 2005).

Anta et al. (2013) conducted a research in Nandi District, Kenya, aimed to establish the relationship between teachers' characteristics and students' academic achievement. The findings revealed that students' academic achievement (in 2007, 2008 and 2009) was below average for 45% of the schools, 6 (30%) performance was on average while 5(25%) of

schools had high student academic achievement. The poor performance was attributed to an inadequate number of teachers in most secondary schools within the district. On teachers' qualification, the study established that 65% of teachers were degree holders, 25% had diploma certificates while only 10% were untrained. Cross-tabulation results suggest that there was no difference in performance between teachers who had a degree or diploma, suggesting that teacher qualification did not lead to increased students' academic achievement. It also indicated that a participation of teachers in professional development programmes has benefited a lot from the improvisation of teaching methods.

2.5.5 Peer Influence

Bankole and Ogunsakin (2015) investigate the influence of peer group on the academic performance of secondary school students in Ekiti State. A total of 225 secondary school students have randomly selected from five mixed (boys and girls) secondary schools for participation in the study. The participants all responded to the Peer Group and Adolescent's Academic Performance (PGAAP) questionnaire. The finding shows that Peers relationship influences academic performance of secondary school students. The study also finds out that Peers pattern of socialization influence academic performance of the secondary school.

Korir and Kipkemboi (2014) examined the impact of the school environment and peer influence on the students' academic performance. The study used a correlation research design where the school environment and peer influence constituted the independent variables whereas the student's academic performance was the dependent variable. Twenty-one public secondary schools in Sabatia District of Vihiga County were used in the study. The study subjects were selected using simple random sampling technique. Questionnaires were used to collect data on the school environment and the peer influence and school records were used to obtain students' academic performance. Data were analysed using

multiple regression. The study established that school environment and peer influence made a significant contribution to the students' academic performance. And therefore help improve their academic performance. Another study by Lavy and Schlosser (2007) examine classroom level peer impacts and find that a high proportion of female classmates improve both boys' and girls' academic performance.

2.6 Review of Empirical Studies

For many years, researches have been conducted on how students learn and its relationship on their academic performance by a number of researchers. Abidin, Rezaee, Abdullah, and Singh (2011) conducted a study on learning styles and overall academic achievement in a specific educational system in Malaysia. A survey research design was used in the study to investigate opinions and preference in educational issues and problems. The study investigated the relationship between learning styles and overall academic achievement. In order to do this, 317 secondary school students participated in the study. Learning styles survey instrument that is based on Joy Reid's perceptual learning styles preferences questionnaire (1987) was used. One-way ANOVA and multiple regression analysis were the statistical procedures employed for the data analysis.

The analyses of data indicated a significant relationship between students overall academic achievement and learning styles, it also found out that the high, moderate and low achievers have a similar preferences pattern of learning in all learning styles. The study concluded that most students possessed multiple learning styles or a combination of different learning styles as such they are able to learn effectively. Therefore the study suggested that teachers should be aware of the usefulness of learning styles for effective teaching/learning to take place.

The past research is similar to the current study because it investigates the relationship between learning styles and academic achievement which is also the independent variable of

the study. The past research is on overall academic achievement in a specific educational level while the current study is on the performance of business education students in shorthand. The past study uses Reid's (1987) perceptual learning styles preferences questionnaire in identifying the students' learning styles, which was used in the current study. Multiple regression analysis was the statistical procedures employed for the data analysis in the past study, while PPMC is the statistical procedure used for the current study. The past work is carried out on the overall performance of students' in Malaysia, while the current study is on the performance of business education students' in shorthand in Colleges of Education North-west Zone, Nigeria.

Audu (2012) conducted a research on the problems and prospects of studying shorthand in Federal Colleges of Education in North-Western Nigeria. In order to achieve this, four specific objectives were raised among which is, identifying the problems faced by students of shorthand in Federal Colleges of Education in the North-west Zone of Nigeria. Four research questions and four Null hypotheses were formulated. A survey design was used for the study. The population of the study consisted of 2,108 students out of which 337 students were sampled using proportional random sampling technique. The questionnaire was used to collect data from the respondents. The data collected were analyzed using frequency distribution, percentages, and means. One Sample t-test was used to test all the null hypotheses at 0.05 level of significance. The study found among others, that poor punctuation, misinterpretation of words and inability to distinguish between heavy and light strokes constitute the major problems of studying shorthand to students. It was also found that shorthand is indispensable in the modern office management. Based on these findings the study concluded that poor enrolment of students in the subject may eventually lead to disengagement of shorthand teachers. If there are no students that enroll for shorthand there might be no teachers of shorthand and that could lead to the stoppage of the course. In view

of these findings and conclusion, it was recommended among others that; there is the need for students of shorthand to have a constant practice of consonants in order to master the heavy and light strokes in shorthand so as to reduce the academic problems of studying shorthand. It was also recommended that there is the need for government at all levels and stakeholders to show commitment to secretarial education by the provision of facilities (e.g. shorthand textbooks, dictation machine, and tape recorders) to secretarial education departments in the Federal Colleges of Education.

Audu's research study is relevant to the current study because both focus on federal colleges of education students in the north-west zone of Nigeria and both also focus on the performance of students in shorthand. The past study serves as a source of literature for the current research work.

Al-Hebaishi (2012) investigates the Relationship between Learning Styles, Strategies and the Performance of Saudi Major in English. The purpose of the study was to identify the learning style and strategies preferences of female English Foreign Language majors at Taibah University as well as to investigate the relationship of learning styles and learning strategies to academic performance in the Methodology One Course. Data were collected from a sample of (88) participants. The instruments used in the study were: (a) The Language Style Preferences Questionnaire; (b) The Strategy Inventory for Language Learning SILL (c) An English Foreign Language Methodology One Course achievement test. Results showed that the visual learning style was the most preferred by the majority of participants. The strategies most frequently employed were cognitive strategies followed by metacognitive strategies. The results also revealed a significant relationship between the visual learning style and memory strategies. Another significant relationship was found between the visual learning style and effective strategies. However, the findings demonstrated the lack of a significant relationship between learning styles and academic performance. In contrast, a

significant positive relationship was found between participants' use of learning strategies and their academic performance.

The past research work is related to the present research work because it concerns with the relationship between Learning Styles and performance. Despite their similarity, the past research work was different to the current research work in the following areas; the past research work was conducted in Taibah while the present work was conducted in North-west geopolitical zone, Nigeria. The previous work selected 88 undergraduate students as the sample size of the study, while the present research work uses 1,107 NCE I business education students as sample size. The past research work is important to the current research work in developing the literature. The past research work did not state the research design used for the study. This research work, therefore, used Ex-post Factor research design.

Remali, Ghazali, Kamaruddin, and Kee (2013), conducted a study on understanding academic performance based on demographic factors, motivational factors and learning styles. The study aims to identify the main factors that influence academic performance of first-year accounting students at University Tenaga Nasional. Demographic factors, motivation factors, and learning styles were investigated as factors contributing to the differences in students' academic performance. 170 students participated in the study. Spearman Correlation Analysis method was used to show the relationship between the three factors with the students' academic performances. Results showed that there is a significant relationship between motivation factors such as intrinsic motivation, extrinsic motivation as well as self-efficacy towards the students' academic performance. This study also found that associated students' academic achievement is directly influenced by learning styles. However, the results also indicated that there is no significant related between gender and students' prior academic knowledge/background.

The past work is relevant to the current study because both the current work and the previous study review literature on learning styles and performance of students, the current study is on shorthand while the previous is on accounting. However, the last study did not identify the research design used for the study, while the current research used Ex-post facto research design. The past study did not identify the procedure used for data analyses, while the current study used the Pearson Product Moment Correlation Coefficient (PPMC) analyses and ANOVA in testing the null hypotheses.

Gappi (2013) carried out a study on the relationship between learning style preferences and academic performance of students. The specific objectives of the study were to: describe the learning style preferences of the students, find out whether learning style preferences of the students differ with age, gender and academic program. The participants of the study consisted of all the freshman students who were accepted during the first trimester of the academic year 2012-2013. The Index of Learning Styles (ILS) questionnaire was utilized to carry out the rationale of the study. Statistical treatment integrated the computation of mean, average and percentage, one way ANOVA was utilized to establish whether differences in preferred style and participants profile variables exist. Pearson product moment correlation coefficient was calculated between learning styles and GPA. The results showed that there was no significant effect of gender, age and academic program on the learning style preference of the students. The result also shows that there was no statistically significant correlation between the academic achievement and the visual, auditory and kinesthetic learning style preference of the students. The study recommended that large scale of studies should further the investigation on the influence of the learning styles on the teaching and learning progress.

The previous study was carried out on learning styles, which is the independent variables of the current study, however, the type of research design used on the previous

work was not identified, the current study used Ex-post facto research design and the sampling technique used in the previous work was not identified, the current study used purposive and random sampling techniques. The previous work is on the performance of freshman students in 2012/2013 academic year while the current study is on the performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria.

Vaishnav (2013) conducted a research on the analysis of learning styles and academic achievement of secondary school students in Nagpur. The study was conducted on a sample of 200 students through random sampling techniques from various schools of Nagpur city in Maharashtra state. Howard Gardner's VAK brain box and VAK learning styles inventory by Victoria Chislett and Alan Chapman were used to identify the preferred learning styles of students. The objective of the study was to find out relation and effects of different learning styles on the academic achievement of students. The correlation between academic achievement and learning styles was determined using Pearson's product moment coefficient and ANOVA F test was used to identify the effect of learning styles on academic achievement.

The findings of the study revealed that there exists a positive low correlation between auditory learners and academic achievement and the study also revealed that different learning styles have effects on academic achievement of students. The study concluded that kinesthetic learning styles were found to be more prevalent than visual and auditory learning styles among secondary school students and there exists a positive high correlation between kinesthetic learning styles and academic achievement. The study recommended that teachers should identify students learning styles for better learning.

The past research work did not identify the research design used for the study and the study is on the academic achievement of secondary school students which seems to be too

wide, however, this present study focus on the performance of business education students in shorthand in the college of education. The past study is important to the current research because it investigates the effects of learning styles on the performance of students which is also the independent variable in current research and the past study classified students into visual, auditory, and kinesthetic learners, the current study also classifies students into visual, auditory, and kinesthetic learners.

A study conducted by Esia-Donkoh, Eshun, and Acquye (2015) on Learning Styles and Factors Affecting Learning: Perception of 2013/2014 final year post-diploma sandwich students' of the Department of Basic Education, University Of Education, Winneba, Ghana. The study sought to investigate the learning styles preference of 2013/2014 final year post diploma sandwich students from the Department of Basic Education, Winneba, Ghana, and the factors that affect their learning. The descriptive survey design was used for the study. The purposive sampling technique was used to sample 472 final year students who were given a questionnaire each to fill. However, 446 students filled their questionnaire and returned them to the researchers. One of the findings was that the most preferred learning style of the students was a combination of auditory and visual learning styles. Another finding was that generally, the students agreed that their learning styles were affected by physical and teaching and learning factors. On the other hand, they generally disagreed that environmental and personal factors influenced their learning styles. It was also found out that physical factors greatly affected the learning styles of 2013/2014 final year post diploma sandwich students of the Department of Basic Education, Winneba, Ghana. Generally, there was no significant difference in the learning style preference of the male and female students. Among the recommendations is that lecturers of the Department of Basic Education, Winneba, Ghana, should endeavor to identify the learning styles of their students in order to adapt teaching styles that will suit the learning needs of the students.

The previous research work is similar to the present research in the following ways: the past research was conducted on learning styles and factors that affect learning, one variable (Learning Styles) under study in the current research work. Even though the past research work was good, but they differ in location; where the past work was conducted in Winneba, Ghana, the present research work was conducted in North-west Zone in Nigeria. The past research adopted a descriptive survey research design while the present work adopted Ex-post facto research design. The past research work will help the present in the sense that the present researcher shall use some literature particularly those concerned with Learning Styles to add to its literature. However, the past research work did not mention the type of questionnaire used for data collection and no any tool for statistical analysis. This research work used Reid (1987) Perceptual Learning Styles Questionnaire (PLSQ) and Pearson Product Moment Correlation (PPMC) and ANOVA were used to test the null hypotheses.

Njoku and Abdulhamid (2016) also conducted a study on Preference of Learning Styles and Its Relationship with Academic Performance among Junior Secondary School Students in Dutse Local Government Area, Jigawa State, Nigeria. The objective of the study was to investigate the preference of learning styles and its relationship with academic performance among Junior Secondary School Students in Dutse Local Government Area, Jigawa state, Nigeria. The study employed survey design. The statistics used for analysis of data were mean, percentages and Pearson Product Moment Correlation Coefficient. From thirty Junior Secondary Schools in the Local Government Area, ten schools were randomly selected. Out of a total student's population of 2000, 327 students were randomly selected using a simple hat and draw method. Two research instruments were used for data collection, namely Barsch leaning style inventory and Academic Performance Test. The result revealed that 217 of the students have preferred kinesthetic learning style, 66 of the preferred visual

style while 44 of them preferred auditory style. It was also noted that the learning style of the students affected their academic performance because the performances of students correlated with the learning styles they preferred. It is recommended that learning should be made more practical since most of the students learned by doing.

The present work is similar to the past study because they both concentrate students' learning styles and their performance and they both classify students learning styles into visual, auditory and kinaesthetic, Mean and standard deviation was used in analysing the data from the research questions in the past research work, PPMC is also used for both past and current research work and the present work used mean and standard deviation to answer its research questions. The past research work is relevant to the present work because it will help the present work in literacy development. However, despite their similarities, these research works differ to the extent that the previous research work was conducted in Jigawa State, but the present work was conducted in Federal colleges of education North-west Zone, Nigeria, hence, they differ in location. The previous researcher formulated one (1) research objectives which are too scanty to achieve the actual relationships between learning styles and students' performance, while the present work analyzed four (4) research questions. The previous researcher uses survey research design for the data collection, but Ex-post Facto research design was used for the current study.

2.7 Summary of Reviewed Literature

In the course of this study, different kinds of literature related to the work under study were reviewed under several sub-headings. The study was based upon Bruner (1960) individual differences theory. Different concepts that made up the study were examined in steps and sub-steps as endorsed by different authors and authorities. From what has been studied, many authors were found having coming focus on the concept of Learning Styles.

The review glanced at the concept of Learning styles, the concept of shorthand, the concept of performance, learning styles and students' performance, factors affecting students' performance in shorthand were all examined. After reviewing related literature, it was observed that most of the researchers recommended that lecturers should endeavor to identify the learning styles of their students in order to adopt teaching styles that will suit the learning needs of the students.

Eight (8) empirical studies related to learning styles and students' performance conducted widely inside and outside Nigeria was reviewed. Despite all the literature reviewed, to the best of the researcher's knowledge, none was found on the assessment of the relationship between learning styles and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria. This is the gap that the result of this work will help to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter described the methods and procedures employed in carrying out the study. The chapter was organized under the following sub-headings:

3.1 Research Design

3.2 Population of the Study

3.3 Sample Size and Sampling Procedure

3.4 Instrument for Data Collection

3.4.1 Validity of the Instrument

3.4.2 Pilot Test

3.4.3 Reliability of the Instrument

3.5 Procedure for Data Collection

3.6 Procedure for Data Analysis

3.1 Research Design

The ex-post facto research design was adopted for this study. The ex-post facto research design is a type of design in which the researcher does not manipulate variables because they have already occurred. According to Adeniyi, Oyekanmi and Tijjani (2011) Ex-post facto research design is a design that seeks to describe a cause and effects relationship using an independent and dependent variable. Orodho (2009) defined ex-post facto research design as a method in which groups with qualities that already exist are compared on some dependent variables. The design is appropriate for this study in that the variables for the study (students learning styles and their performance in shorthand examination) had already occurred. The researcher merely collected the result and analysed its relationship with students' learning styles.

3.2 Population of the Study

The population of the study is 1,616 and is comprised of all NCE1 business education students in colleges of education in North-west Zone, Nigeria in the 2015/2016 academic session. The breakdown of the population is shown in Table 1.

Table 1: Population of the Study

S/N	Name of College	No. of Students
1.	Federal college of Education Kano, Kano State.	380
2.	College of Education Gidan-Waya, Kafanchan, Kaduna State.	319
3.	Federal college of Education (Technical) Bichi, Kano State.	207
4.	Jigawa State College of Education Gumel, Jigawa State.	165
5.	Federal college of Education Katsina, Katsina State.	150
6.	Federal college of Education Zaria, Kaduna State.	138
7.	Sa'adatu Rimi College of Education Kano, Kano State.	109
8.	Shehu Shagari College of Education Sokoto, Sokoto State.	68
9.	Federal college of Education (Technical) Gusau, Zamfara State.	80
	Total	**1,616**

Source: Business Education Departmental Record Office of each College (2016)

3.3 Sample Size and Sampling Procedure

The sample was 364, made up of NCE 1 business education students of four (4) federal colleges of education in North-west Zone, Nigeria. The colleges were Federal College of Education, Kano, Federal College of Education (Technical), Bichi, Federal College of Education, Katsina and Federal College of Education (Technical), Gusau. Purposive sampling technique was used in selecting the four (4) federal colleges of education because of their longtime of establishment, qualified lecturers and teaching facilities in their departments of business education.

Random sampling technique was used in selecting a group of students from pre-existing groups of students in Federal Colleges of Education, Kano, Federal Colleges of Education (Technical), Bichi, and Federal Colleges of Education, Katsina. This was done using 'hat drawn' technique by allowing a representative of each group in each college to pick a wrapped piece of paper containing "Yes" and "No". The group who picked yes formed the size for the study. All the students were selected in Federal Colleges of Education (Technical), Gusau, since there was no pre-existing group and the population is not large. The breakdown of the sample size for the study is shown in table 2.

Table 2: Sample Size

S/N	Name of College	No. of Students
1	Federal College of Education, Kano.	110
2.	Federal college of Education (Technical), Bichi.	84
3	Federal College of Education, Katsina.	90
4	Federal College of Education (Technical), Gusau.	80
	Total	**364**

Source: Field Survey, 2016

3.4 Instrument for Data Collection

Two instruments were used for data collection. The first was the Perceptual Learning Styles Questionnaire (PLSQ) (Appendix B) adapted from Reid (1987) Learning Styles Questionnaire. The questionnaire assessed the preferred learning styles of the students based on how they learn best using their perceptions (visual, auditory and kinesthetic) preferences. The instrument contained 30 items, built around the three learning styles investigated in the study. There were ten items for each style in the instruments. Items 1 to 10 related to identifying visual learning style, items 11 to 20 concerned identifying auditory learning style, and items 21 to 30 were related to identifying kinesthetic learning style. The instrument

required the students to indicate whether they Strongly Agree (SA), Agree (A) Disagree (D) or Strongly Disagree (SD) with each statement. The instrument was rated on a 4-point scale, with scores ranging from 4 to 1. The subscale with the highest mean score for each student was the students' most preferred learning style.

The second instrument for the study was the 2015/2016 first semester student's examination results in BED 116-Shorthand Theory l, (Appendix C). The data was obtained from the departmental record office of each college.

3.4.1 Validity of the Instrument

The adapted Perceptual Learning Styles Questionnaire was subjected to face validity. The instrument was vetted by four research experts in research methodology from the Department of Educational Psychology and Counseling, Faculty of Education, Ahmadu Bello University Zaria, and the researcher's supervisors. All the suggestions and modifications made by the experts were effected before the final copy was produced.

3.4.2 Pilot Test

A pilot test of the Perceptual Learning Styles Questionnaire was conducted using thirty (30) NCE 1 business education students of the College of Education, Azare, Bauchi State. Test-re-test method was used in pilot testing of the instrument where the students were administered with the perceptual learning styles questionnaire, after two weeks the students were re-administered with the same questionnaire. The College was selected because its students had the same characteristics as those of the colleges under study.

3.4.3 Reliability of the Instrument

Data collected from the pilot study were analysed to determine the reliability co-efficience of the instrument, which was done using the Kuder Richardson method of testing for reliability. The method was selected because, according to Uzoagulu (2011), it is used when administering a single test to a group of test takers. A reliability co-efficience of 0.75

was obtained. This reliability coefficient was high and therefore the instrument was adjudged stable and reliable, Olayiwola, (2007) stated that reliability estimate of 0.65 and above are good.

3.5 Procedure for Data Collection

The researcher collected a letter of introduction (Appendix A) from the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria, which was used to introduce the researcher to the colleges. The data collection lasts for the period of four (4) weeks.

In the First week, the researcher visited the Federal College of Education, Kano. The first thirty minutes were used for introduction, familiarity and creating rapport between the researcher and the students. Thereafter, the researcher administered the Perceptual Learning Styles Questionnaire to the students (Appendix B). Completion of the questionnaire lasted for thirty minutes. The researcher collected the students' result of BED 116-Shorthand Theory l from the examination record office of the Department of Business Education, (Appendix C).

In the second week, the researcher visited the Federal College of Education, (Technical), Bichi. The first thirty minutes was used for introduction, familiarity and creating rapport between the researcher and the students. Thereafter, the researcher administered the Perceptual Learning Styles Questionnaire to the students. Completion of the questionnaire lasted for thirty minutes. The researcher collected the students' result of BED 116-Shorthand Theory l from the examination record office of the Department of Business Education.

The researcher visited the Federal College of Education, Katsina, in the third week. The first thirty minutes were used for introduction, familiarity and creating rapport between the researcher and the students. Thereafter, the researcher administered the Perceptual Learning Styles Questionnaire to the students. Completion of the questionnaire lasted for

thirty minutes. The researcher collected the students' result of BED 116-Shorthand Theory l from the examination record office of the Department of Business Education, (Appendix C).

In the fourth week, the researcher visited the Federal College of Education (Technical), Gusau. The first thirty minutes were used for introduction, familiarity and creating rapport between the researcher and the students. Thereafter, the researcher administered the Perceptual Learning Styles Questionnaire to the students (Appendix B). Completion of the questionnaire lasted for thirty minutes. The researcher collected the students' result of BED 116-Shorthand Theory l from the examination record office of the Department of Business Education, (Appendix C). In each college, the administration of the instrument was done with the help of two (2) research assistants.

3.6 Procedure for Data Analysis

The data collected were subjected to statistical analysis. Research question one was answered using frequency and percentages. Research question two, three, four, and five were answered using mean and standard deviation. Hypotheses one, two and three were tested using Pearson Product Moment Correlation Co-efficient (PPMC), and ANOVA was used to test hypothesis four. All the null hypotheses were tested at 0.05 level of significance.

For the research questions, a mean performance of 40% and above signified that there was a relationship between students learning styles and their performance in shorthand. On the other hand, where the mean performance was below 40%, it signified that learning styles had no relationship with students' performance in shorthand. For the null hypotheses, where the calculated p-value was equal or greater than the alpha value, the null hypotheses were retained. On the other hand, where the calculated value was less than the alpha value, the null hypothesis was rejected.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter presented and analysed the data collected from the study. Three hundred and sixty-four (364) copies of the questionnaire were administered. The chapter was treated in the following order:

4.1 Answers to Research Questions

4.2 Test of Null Hypotheses

4.3 Discussion of Findings

4.1 Answers to Research Questions

The five research questions were answered and the results are presented in Tables 3 to 7.

4.1.1 Research Question One: What is the classification of business education students into visual, auditory and kinesthetic learning style in learning shorthand in colleges of education in North-west Zone, Nigeria?

Table 3: Classification of Business Education Students Based on their Learning Styles

Learning Styles	College				Frequency	Percentage
	FCE Kano	FCE(T) Bichi	FCE Katsina	FCE(T) Gusau		
Visual	42	23	30	20	115	32
Auditory	28	25	27	25	105	29
Kinesthetics	40	36	33	35	144	39
Total	**110**	**84**	**90**	**80**	**364**	**100**

Source: Field Work, 2017

The analysis in Table 3 indicated that 115 students (32%) adopted a visual learning style, 105 (29%) adopted auditory learning style and 144 (39%) adopted kinesthetic learning style. This implies that business education students adopted all the three (3) learning style in

learning shorthand, with those students who adopted kinesthetic learning style as the majority.

Research Question Two: What is the relationship between visual learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria?

Table 4: Mean Performance of Business Education Students' in Shorthand who adopted Visual Learning Style

Variable	Mean	Std. Dev.	Decision
Visual learning style	3.19	0.39	Visual learning style had a low relationship with students' performance in shorthand
Academic Performance	46.09	15.15	

Source: Field Work, 2017

The result of the analysis in Table 4 showed that there was a low relationship between visual learning styles and business education students' performance in shorthand. The analysis revealed that visual learning style had a mean of 3.19 and a standard deviation of 0.39, against mean 0f 46.09 and standard deviation of 15.15 for performance. The mean score of performance was just slightly greater than the benchmark value of 40%. This indicated that visual learning style had a low relationship with the performance of business education students in shorthand in colleges of education in North-west zone, Nigeria.

Research Question Three: What is the relationship between auditory learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria?

Table 5: **Mean Performance of Business Education Students' in Shorthand who adopted Auditory Learning Style**

Variable	Mean	Std. Dev.	Decision
Auditory learning style	3.19	0.49	Auditory learning style had a low relationship with students' performance in shorthand
Academic Performance	46.41	15.32	

Source: Field Work, 2017

The result in Table 5 revealed a mean score of 3.19 for auditory learning style and a standard deviation of 0.49, and a mean score of 46.41 for performance and a standard deviation of 15.32. Though the mean score for academic performance was greater than 40% benchmark, the relationship between auditory learning style and performance of business education in shorthand in colleges of education in North-west zone, Nigeria was rather low.

Research Question Four: What is the relationship between kinesthetic learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria?

Table 6: Mean Performance of Business Education Students' in Shorthand who adopted Kinesthetic Learning Style

Variable	Mean	Std. Dev.	Decision
Kinesthetic learning style	3.29	0.43	Kinesthetic learning style had a relationship with students' performance in shorthand
Academic performance	50.72	16.37	

Source: Field Work, 2017

The analysis in Table 6 showed a mean score of 3.29 for kinesthetic learning style, and a standard deviation of 0.43, against a mean score of 50.72 for academic performance and a standard deviation of 16.37. From the analysis, the mean performance score of 50.72 indicated a relationship between kinesthetic learning style and performance of business education students in shorthand in North-west zone, Nigeria.

Research Question Five: What is the difference in the performance of business education students in shorthand who adopted visual learning style, auditory learning style and kinesthetic learning style in colleges of education in North-west Zone, Nigeria?

Table 7: Mean Difference in the Performance of Business Education Students in Shorthand Based on their Learning Styles

Variable	Mean	Std. Dev.	Decision
Visual Learning Style Performance	46.09	15.55	Students who adopted
Auditory Learning Style Performance	46.41	15.32	kinesthetic learning style
Kinesthetic learning Style performance	50.72	16.37	performed better

Source: Field Work, 2017

Table 7 showed the mean scores of academic performance of the students vis-a-vis the three learning styles. The Table showed that there was difference between the performance of students who adopted visual learning style, auditory learning, and kinesthetic learning style, although the differences were minimal. It is worth noting however that the result implied that the performance of students who adopted kinesthetic learning style was better than those of the students who adopted visual and auditory learning styles.

4.2 Test of Null Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance. The results are presented in Tables 8 to 11.

Null Hypothesis One: There is no significant relationship between visual learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria.

Table 8: PPMC Test of Relationship between Visual Learning Style and Business Education Students' Performance in Shorthand

Variable	Mean	Std. Dev.	r-crit	r-cal	Sig.	Decision
Visual learning style	3.19	0.39	0.195	-0.019	0.838	Retained
Academic performance	46.09	15.15				

Source: Field Work, 2017

The analysis of data in Table 8 used to test null hypothesis one revealed the r-cal value of -0.019. The probability value of 0.838 obtained was greater than the 0.05 level of significance. This meant that there was no significant relationship between visual learning style and business education students' performance in shorthand in the college of education North-west Zone, Nigeria. The hypothesis was therefore retained.

Null Hypothesis Two: There is no significant relationship between auditory learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria.

Table 9: PPMC Test of Relationship between Auditory Learning Style and Business Education Students' Performance in Shorthand

Variable	Mean	Std. Dev.	r-crit	r-cal	Sig.	Decision
Auditory learning style	3.19	0.49	0.195	-0.188	0.055	Retain
Academic performance	46.41	15.32				

Source: Field Work, 2017

The analysis in Table 9 revealed a calculated r-value of -0.188 with a probability value of 0.055 found to be greater than 0.05 level of significance. The result, therefore, indicated that there was no significant relationship between auditory learning style and

performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria. The hypothesis was therefore retained.

Null Hypothesis Three: There is no significant relationship between kinesthetic learning style and business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria.

Table 10: PPMC Test of Relationship between Kinesthetic Learning Style and Business Education Students' Performance in Shorthand

Variable	Mean	Std. Dev.	r-crit	r-cal	Sig.	Decision
Kinesthetic learning	3.29	0.43	0.195	0.167	0.045	Rejected
Academic performance	50.72	16.37				

Source: Field Work, 2017

The result of analysis of data used to test null hypothesis three revealed a calculated r-cal of 0.167 with a probability of 0.045, less than the alpha value of 0.05. The result showed that there was a significant relationship between kinesthetic learning style and performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria. The hypothesis was therefore rejected.

Null Hypothesis Four: There is no significant difference in the performance of business education students in shorthand who adopted visual learning style, auditory learning style and kinesthetic learning style in colleges of education in North-west Zone, Nigeria.

Table 11: ANOVA of Test of Variance between Performances of Business Education Students in Shorthand Based on their Learning Styles

Variable	Sum of square	Df	Mean squares	F-cal	Sig.	Decision
Between Groups	25.296	2	12.648			
Groups	85757.847	361	237.556	0.53	0.948	Retained
Total	**85783.143**	**363**				

Source: Field Work, 2017

In Table 11, a one-way between groups ANOVA was conducted to compare the differences in the performance of business education students who adopted visual, auditory and kinesthetic learning style. The result showed that there was no significant difference in

the performance of the students based on the three learning styles. The f- calculated of 0.53 with a P-value of 0.948 was greater than the 0.05 level of significance. Hence the null hypothesis was retained.

4.3 Discussion of Major Findings

The finding of research question two and test of null hypothesis one showed that there was no significant relationship between visual learning style and business education students' performance in shorthand. The finding was in agreement with that of Al-Hebaishi (2012) who reported that there was no significant relationship between visual learning style and academic performance of students. Khalid (2013) also reported that there was no significant relationship between visual learning styles and students' academic achievement. Gappi (2013) indicated that there was no significant correlation between visual learning style and academic achievement of students. In contrast, Erton (2010) reported a significant relationship between visual learning style and academic achievement of students. Abidin et al (2011) reported that there was a significant relationship between visual learning style and academic performance. Remali et al (2013) also reported a significant relationship between visual learning style and students' academic performance in English. Similarly, Vaishnav (2013) stated that visual learning style had a significant relationship with students' academic success.

The outcome of this study indicated that there was no significant relationship between auditory learning style and business education students' performance in shorthand. The finding was in agreement with that of Lincoln and Rademacher (2006) who reported that auditory learning had no significant relationship with student academic performance. Warn (2009) confirmed that auditory learning style did not have a significant relationship with students' academic performance. Similarly, Gokalp (2013) found no significant relationship between the academic performance of students and the auditory learning style. Also,

Albina (2013) reported that there was no significant relationship between students' academic achievement and auditory learning style.

Some authors reported findings that indicated contrary views to those stated above. Abu-sharbain and Jahaish (2010) found a significant correlation between the performance of students and auditory learning style. Likewise, Esia-Donkoh, Eshun, and Acquye (2015) confirmed that there was a significant relationship between auditory learning style and academics performance of students. The finding of Vaishnav (2013) also showed that there existed a significant relationship between auditory learning style and students' academic achievement. Bidabadi and Yamat (2010) reported that auditory learning style correlated significantly with students' performance.

The outcome of the study indicated that there was a significant relationship between kinesthetic learning style and business education students' performance in shorthand. This finding was in agreement with that of Vaishnav (2013), who reported that there existed significant relationship between kinesthetic learning style and academic achievement of students. The study of Remali et al (2013) found that kinesthetic learning style to had significant relationship with students' academic performance. Oommen (2015) also reported that a significant correlation between kinesthetic learning style and academic achievement of secondary school students. Njoku and Abdulhamid (2016) also reported a significant relationship between kinesthetic learning style and students' academic performance. In contrast, Khan and Iqbal (2012) found that kinesthetic learning style and academic achievement were not significantly correlated. Similarly, Ariffin et al (2014) found no significant relationship between kinesthetic learning style and students' academic performance.

Finally, this study revealed that there was no significant difference in the performances of business education students in shorthand based on their learning styles

(visual, auditory and kinesthetic). The finding was in line with that of Lincoln and Rademacher (2006) who reported that there was no significant difference between the performance of students who adopted visual, auditory and kinesthetic learning style. Abdulkadir and Din (2006) also reported that no significant difference existed in the performance of students based on their learning styles. Similarly, Slater, Lujan, and Dicarlo (2007) reported that there was no significant difference in the performance of students based on their learning styles. Charles (2008) found no significant difference in the performance of students who adopted visual, auditory and kinesthetic learning style. Ibe (2015) stated in his report that there were no significant differences in the mean score of a student in biology who adopted different (visual, auditory or kinesthetic) learning styles.

There were reports of findings that indicated contrary views to those stated above. Bahar (2009) found a significant difference in the performance of students who adopted visual, auditory and kinesthetic learning style. Walsh (2011) reported that a significant difference existed in the academic performance of students based on their adopted learning styles. Similarly, Vaishnav (2013) reported a significant difference between the performance of students who adopted visual, auditory and kinesthetic learning style.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter summarised the whole work. The conclusion was also drawn and recommendations made. The chapter was presented under the following sub-headings:

5.1 Summary

5.2 Contribution to Knowledge

5.3 Conclusion

5.4 Recommendations

5.5 Suggestions for Further Studies

5.1 Summary

The study assessed the relationship between learning styles and performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria. The study had five specific objectives, five research questions, and four null hypotheses. The ex-post facto research design was adopted for the study. The population of the study was 1,616 and the sample was 364. Perceptual Learning Styles Questionnaire (PLSQ) and students' examination result in shorthand were used as instruments for data collection. Perceptual Learning Styles Questionnaire (PLSQ) was validated by four research experts in research methodology in the Department of Educational Psychology and Counseling, Faculty of Education, Ahmadu Bello University Zaria, and the researcher's supervisors. The instrument was also pilot tested, and a reliability co-efficience of 0.75 was obtained. Frequencies and percentages were used to classify the students into their learning styles. Mean and standard deviation was used to answer the research questions. In the test of hypotheses, Pearson Product Moment Correlation was used to test null hypotheses one, two

and three, and ANOVA was used to test null hypothesis four. All the hypotheses were tested at 0.05 level of significance. The study revealed the following findings:

1. One hundred and fifteen 115 (32%) students adopted the visual learning style. Those that adopted auditory learning style were 105 (29%), and those that adopted kinesthetic learning style were 144(39%). This implied that each of the learning styles was adopted, with a kinesthetic learning style having the highest number of students.
2. Visual learning style had no significant relationship with business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria. ($p = 0.838$).
3. Auditory learning style had no significant relationship with business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria. ($p = 0.055$).
4. Kinesthetic learning style had a significant relationship with business education students' performance in shorthand in colleges of education in North-west Zone, Nigeria. ($p = 0.045$).
5. There was no significant difference between the performances of business education students in shorthand who adopted different learning styles (visual, auditory and kinesthetic) in colleges of education in North-west Zone, Nigeria. ($p = 0.948$)

5.2 Contributions to Knowledge

From the analysis of data collected the study revealed that:

1. Visual learning style may not necessarily improve business education students' performance in shorthand in colleges of education North-west Zone, Nigeria.
2. Auditory learning style may not necessarily improve business education students' performance in shorthand in colleges of education North-west Zone, Nigeria.

3. Adopting kinesthetic learning style can possibly improve business education students' performance in shorthand in colleges of education North-west Zone, Nigeria.

5.3 Conclusion

Based on the stated objectives that the research work addressed, the researcher concluded that shorthand students who want to perform excellently cannot do without being informed about their learning styles. This is because it has been revealed that learning styles have a relationship with students' performance in shorthand. The inference of the study is that students who adopted kinesthetic learning style in learning shorthand tend to perform better.

The findings of the study clearly established that students who adopted the kinesthetic learning style performed better in shorthand. However, students who adopted visual or auditory learning style may not do as well as those who adopted kinesthetic learning style in shorthand. It was therefore concluded that adopting the appropriate learning style is paramount to how well a student performs in shorthand.

5.4 Recommendations

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

1. Shorthand Lecturers should take into account their students' diverse learning styles and design instructional methods that take care of those diversities and remain sensitive to such during the instruction process.
2. Shorthand students who adopt visual learning style should consider another learning style that is more compatible with learning shorthand.
3. Shorthand students who adopt auditory learning style should consider another learning style that is more compatible with learning shorthand.
4. Business education students should be encouraged to adopt a kinesthetic learning style in learning shorthand.

5.5 Suggestions for Further Studies

The researcher suggested the following areas should be researched into:

1. Assessment of lecture time and lecture duration on the performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria.
2. Effects of team fair method and cooperative method on the performance of business education students in shorthand in colleges of education in North-west Zone, Nigeria.

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APPENDIX A

LETTER OF INTRODUCTION

DEPARTMENT OF VOCATIONAL & TECHNICAL EDUCATION

AHMADU BELLO UNIVERSITY, ZARIA - NIGERIA

Telephone: 069-51755, 50692

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

Your Ref: P14EDVE8038

Our Ref:

Date: 3rd March, 2017

Letter of Identification

HUSSAINA AHMED ABDULLAHI – P14EDVE8038

This is to certify that the above mentioned name is a Postgraduate student (M.Ed Business Education) in the Department of Vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria. She is carrying out a research on: **Relationship Between Business Education Students Learning Styles and Their Performance in Shorthand in Colleges of Education in North-West Geo-Political Zone, Nigeria.**

Please, kindly give her every assistance she may require .

HEAD
Dept. of Voc. & Tech. Educ.
Faculty of Education
A B U., Zaria

Dr. Sani Ibrahim
INTERIM HEAD OF DEPARTMENT

APPENDIX B

PERCEPTUAL LEARNING STYLE PREFERENCE QUESTIONNAIRE

Please tick (✓) as appropriate as possible the option that matches your learning style in the box provided.

Adm. Number:…….. Name of Institution:……...

Key:

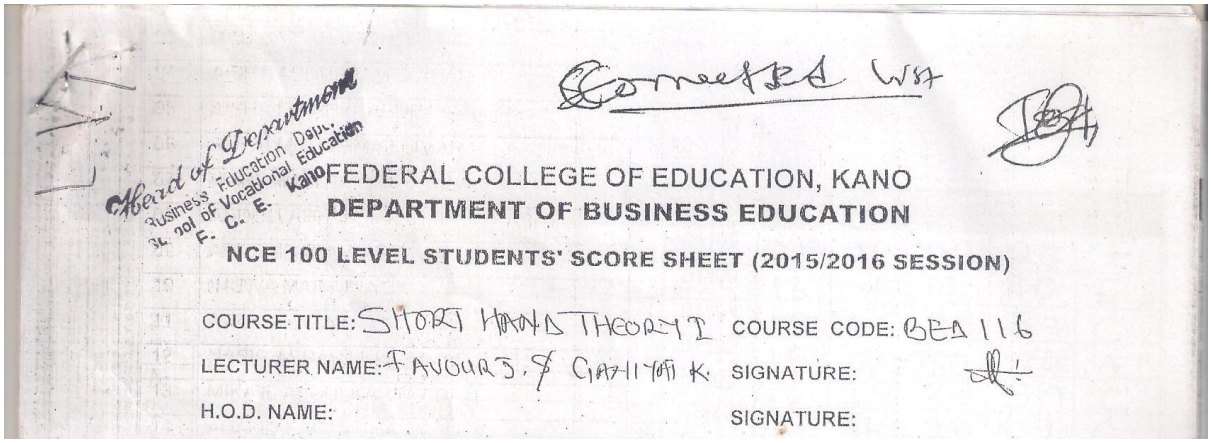
SD = Strongly agree A= Agree D = Disagree D = Strongly disagree

S/N	ITEM	SA	A	D	SD
1.	When I operate new equipment, I read the instruction first				
2.	I learn more by reading than by listening to someone or lecture				
3.	I find it easy to remember faces				
4.	If I am explaining to someone I tend to show them what I mean				
5	When I have to revise for an exam, I write a lot of revision notes				
6	I feel connected to other people because of how they look				
7	If I am teaching someone something, I tend to write down instructions for them				
8	When I am learning in a class, I am most comfortable watching what the teacher is doing				
9	I remember things best by writing notes or keeping printed details				
10	When I concentrate, I often focus on the words or the pictures in front of me				
11	When I operate new equipment, I listen to an explanation from someone who has used the equipment before				
12	When the teacher tells me the instructions, I understand better				
13	I tend to give a verbal explanation when am teaching someone something				

14	I talk through with the teacher what am supposed to do when am learning a new skill				
15	I learn better in class when I listen to someone				
16	I remember things best by saying them aloud or repeating words and key points in my head				
17	I feel connected to other people because of what they say to me				
18	I talk over my notes alone or with other people when I revise for an exam				
19	I tend to verbally explain to someone in a different way until they understand				
20	I find it easy to remember names				
21	When I operate new equipment I generally go ahead and have a go, I can figure it out as I use it				
22	I tend to demonstrate when am teaching someone something				
23	When I am learning, I am most comfortable to give it a try or work it out				
24	My first memory is of doing something				
25	I feel connected to other people because of how they make me feel				
26	When I have to revise for an exam, I imagine the movement or creating the formula				
27	If I am explaining to someone I tent to encourage them to try it				
28	I find it easy to remember things I have done				
29	I prefer to learn by doing something in class				
30	I remember things best by doing and practicing the activity or imagining it being done				

Thanks for your kindness, please!

APPENDIX C
BED 116 (SHORTHAND THEORY I) 2015/2016 FRIST SEMESTER EXAMINATION RESULTS



Corrected W.A.

Head of Department
Business Education Dept.
School of Vocational Education
F. C. E. Kano

FEDERAL COLLEGE OF EDUCATION, KANO
DEPARTMENT OF BUSINESS EDUCATION
NCE 100 LEVEL STUDENTS' SCORE SHEET (2015/2016 SESSION)

COURSE TITLE: SHORT HAND THEORY I COURSE CODE: BED 116
LECTURER NAME: FAVOUR S. & GAZHIYAM K. SIGNATURE:
H.O.D. NAME: SIGNATURE:

REG. NO.	1ST C.A.	2ND C.A.	EXAM	TOTAL	GRADE
05260	10	10	02	22	F
03673	10	10	04	24	F
01161	10	11	05	26	F
01162	15	16	16	47	D
01163	15	15	12	42	E
01164	14	17	19	50	C
01165	14	15	15	44	E
01166	13	16	09	41	E
01167	08	08	02	18	F
01169	10	10	04	24	F
01170	16	17	07	40	E
01171	16	16	08	40	E
01172	14	15	15	44	E
01173	16	16	08	40	E
01174	13	13	15	41	E
01175	16	16	08	40	E
01178	13	14	13	40	E
01179	14	16	21	51	C
01180	16	16	18	50	C
01181	14	16	49	79	A
01182	06	06	00	12	F
01183	15	16	29	60	B
01185	16	16	18	50	C
01186	14	16	14	44	E
01187	17	18	05	40	E
01188	17	17	19	53	C

REG. NO.	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01189	09	11	03	23	F
01190	13	14	13	40	E
01191	15	18	26	59	C
01192	15	15	40	70	A
01193	10	19	30	59	C
01194	16	16	20	52	C
01195	14	16	20	50	C
01196	13	13	17	43	E
01197	16	16	18	50	C
01198	05	07	00	12	F
01200	13	14	47	74	A
01201	10	10	05	25	F
01202	15	15	39	69	B
01203	16	16	18	50	C
01204	09	09	05	23	F
01205	16	16	21	53	C
01206	10	11	06	27	F
01207	08	08	04	20	F
01208	07	08	05	20	F
01209	17	17	08	42	E
01210	15	15	25	55	C
01211	07	07	03	17	F
01212	19	19	10	48	D
01213	10	10	04	24	F
01214	14	14	12	40	E
01215	18	18	47	83	A
01216	15	16	16	47	D
01217	17	17	43	77	A
01218	14	17	19	50	C
01219	16	16	09	41	E
01220	16	19	06	43	E
01222	10	09	06	25	F
01223	14	15	11	40	E
01224	17	17	39	73	A

REG. NO.	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01225	15	15	12	42	E
01228	10	10	09	29	F
01229	19	10	11	40	E
01230	15	15	18	48	D
01231	16	17	10	43	E
01232	10	10	00	20	F
01234	16	16	25	57	C
01235	08	08	02	18	F
01236	17	17	06	40	E
01237	14	14	53	81	A
01239	02	03	00	05	F
01240	14	14	16	44	E
01241	14	14	18	46	D
01242	12	12	26	50	C
01243	06	06	00	12	F
01244	15	15	10	40	E
01245	14	14	14	42	E
01246	11	14	34	59	C
01247	15	15	30	60	B
01248	16	16	08	40	E
01249	16	16	20	52	C
01250	15	15	31	61	B
01251	15	15	13	43	E
01252	19	19	06	44	E
01253	10	10	27	47	D
01254	01	04	00	05	F
01255	18	18	10	46	D
01256	17	17	06	40	E
01259	17	18	10	45	D
01260	19	19	08	46	D
01261	13	13	04	30	F
01262	05	06	01	12	F
01264	10	11	05	26	F
01265	14	14	17	45	D

REG. NOS	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01266	07	08	05	20	F
01268	14	15	11	40	E
01269	12	12	03	27	F
01270	14	14	14	42	E
01271	14	16	11	41	E
01272	17	17	20	54	C
01273	15	15	47	77	A
01274	17	18	05	40	E
01277	14	14	16	44	E
01278	15	15	10	40	E
01279	15	16	29	60	B
01280	14	15	17	46	D
01281	16	18	06	40	E
01282	07	08	00	15	F
01283					
01284	09	10	06	25	F
01285	15	16	31	62	B
01286	14	15	19	48	D
01287	15	15	34	64	B
01288	09	10	06	25	F
01290	15	16	11	42	E
01291	17	17	11	45	D
01292	17	18	10	45	D
01293	10	10	07	27	F
01295	10	09	05	24	F
01296	15	15	15	45	D
01297	09	10	06	25	F
01298	13	14	13	40	E
01299	15	16	09	43	E
01300	08	08	03	19	F
01302	09	09	07	25	F
01303	12	16	22	50	C
01304	10	13	06	29	F
01305	13	16	11	40	E

REG. NO.	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01306	09	09	06	24	F
01307	16	18	39	73	A
01309	13	17	19	49	D
01310	14	15	11	40	E
01313	09	10	04	23	F
01314	11	11	19	41	E
01316	18	20	39	77	A
01317	06	06	00	12	F
01318	16	16	08	40	E
01319	15	17	08	40	E
01320	14	14	21	49	D
01321	06	08	06	20	F
01322	04	08	05	17	F
01323	14	16	11	41	E
01324	17	17	17	51	C
01326	16	18	09	43	E
01327	16	17	09	42	E
01330	16	16	31	63	B
01331	05	09	02	16	F
01332	14	14	24	52	C
01333	13	13	14	40	E
01334	14	16	11	41	E
01336	13	14	15	42	E
01338	06	08	03	17	F
01339	14	18	19	51	C
01342	06	08	06	14	F
01343	15	15	23	53	C
01345	16	16	16	48	D
01346	05	05	00	10	F
01347	12	13	35	60	B
01348	14	15	11	40	E
01349	09	09	05	23	F
01350	07	07	02	16	F
01352	17	18	22	57	C

REG. NO.	1st C/A	2nd C/A	EXAM	TOTAL	GRADE
01353	06	06	04	16	F
01355	14	16	29	59	C
01356	06	07	04	17	F
01357	14	15	11	40	E
01359	06	08	09	23	F
01360	10	14	05	29	F
01363	09	09	05	23	F
01364	13	15	12	40	E
01365	07	08	02	17	F
01366	10	06	01	17	F
01367	07	10	04	21	F
01368	07	07	02	16	F
01369	16	16	08	40	E
01370	14	17	49	80	A
01372	12	14	14	40	E
01375	16	18	20	54	C
01376	09	09	00	18	F
01378	12	15	16	43	E
01380	17	17	10	44	E
01381	10	14	04	28	F
01382	07	08	07	22	F
01383	16	16	19	51	C
01384	05	08	02	15	F
01385	15	16	13	44	E
01386	15	16	13	44	E
01387	11	11	07	29	F
01388	17	19	20	56	C
01389	17	17	09	43	E
01390	18	17	09	44	E
01392	14	15	25	54	C
01393	09	09	02	20	F
01394	14	14	22	50	C
01395	12	12	17	41	E
01396	07	07	06	20	F

REG. NO.	1st C/A	2nd C/A	EXAM	TOTAL	GRADE
01398	00	00	00	00	F
01399	14	16	16	46	D
01401	08	08	04	20	F
01402	06	06	06	18	F
01403	14	15	21	50	C
01404	16	17	27	60	B
01405	06	06	03	15	F
01406	13	14	21	48	D
01407	14	15	16	45	D
01408	17	17	09	43	E
01409	14	14	12	40	E
01411	11	12	37	60	B
01412	14	14	12	40	E
01413	10	15	15	40	E
01414	14	16	20	50	C
01416	16	17	07	40	E
01417	16	17	08	41	E
01418	15	17	09	41	E
01420	16	16	08	40	E
01422	13	14	15	42	E
01423	14	15	19	48	D
01424	17	17	31	65	B
01425	07	08	04	19	F
01426	06	06	04	16	F
01427	09	09	03	21	F
01428	05	05	04	14	F
01430	14	13	19	46	D
01431	14	15	29	58	C
01433	19	19	48	86	A
01434	04	06	00	10	F
01436	06	06	02	14	F
01438	15	15	14	44	E
01439	—				
01440	10	15	15	40	E

REG. NO.	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01441	14	14	12	40	E
01442	18	18	09	45	D
01443	14	14	28	56	C
01444	07	10	03	20	F
01445	13	14	13	40	E
01446	06	06	04	16	F
01447					
01448	16	17	07	40	E
01449	16	16	08	40	E
01451	09	09	03	21	F
01452	15	15	24	54	C
01454	16	17	08	41	E
01455	08	08	02	18	F
01457	15	16	11	42	E
01458	10	11	04	25	F
01459	14	15	17	46	D
01462	19	20	10	49	D
01465	13	13	24	50	C
01466	18	19	09	46	D
01468	09	10	04	23	F
01470	14	14	16	44	E
01471	14	14	12	40	E
01472	13	13	17	43	E
01474	14	14	15	43	E
01479	14	14	24	52	C
01482	07	07	06	20	F
01483	18	18	08	44	E
01484	07	07	03	17	F
01485	16	16	13	45	D
01487	06	07	00	13	F
01489	13	13	15	41	E
01491	06	06	03	15	F
01492	15	15	19	49	D
01493	16	17	08	41	E

REG. NO.	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01494	07	07	04	18	F
01495	13	14	17	44	E
01496	08	08	05	21	F
01497	13	13	16	42	E
01498	09	09	03	21	F
01499	17	17	08	42	E
01500	19	19	56	94	A
01501	10	13	39	62	B
01504	10	11	07	28	F
01505	18	19	10	47	D
01507	12	12	17	41	E
01508	09	09	05	23	F
01509	16	16	22	54	C
01510	06	06	01	13	F
01511	14	14	22	50	C
01512	07	07	02	16	F
01513	10	19	11	40	E
01515	07	08	02	17	F
01516	07	08	05	20	F
01517	11	14	20	45	D
01519	10	19	23	52	C
01520	13	16	11	40	E
01521	08	08	06	22	F
01522	10	11	03	24	F
01523	06	08	01	15	F
01524	16	17	17	50	C
01525	11	14	15	40	E
01526	06	10	04	20	F
01527	15	15	21	51	C
01528	17	17	06	40	E
01529	10	19	14	43	E
01530	17	17	45	79	A
01531	06	07	00	13	F
01532	10	10	06	26	F

REG NO.	1st CA	2nd CA	EXAM	TOTAL	GRADE
01535	16	16	09	41	E
01536	15	15	33	63	B
01537	13	14	13	40	E
01538	15	16	09	40	E
01539	19	19	08	46	D
01540	14	14	14	42	E
01541	06	08	00	14	F
01544	04	08	04	16	F
01545	12	12	18	42	E
01547	12	15	14	41	E
01548	13	14	23	50	C
01551	13	14	13	40	E
01553	10	07	07	24	F
01554	08	10	04	22	F
01557	04	04	04	12	F
01558	10	19	27	56	C
01560	07	08	03	18	F
01561	15	15	11	41	E
01562	07	10	05	22	F
01565	07	08	04	19	F
01566	10	11	00	21	F
01567	10	19	11	40	E
01568	18	18	31	67	B
01571	08	08	06	22	F
01572	15	18	15	48	D
01574	12	12	04	28	F
01575	16	17	08	41	E
01576	16	18	09	43	E
01578	10	10	04	24	F
01579	16	14	17	47	D
01588	09	09	02	20	F
01581	06	07	07	20	F
01583	07	07	06	20	F
01584	07	07	07	21	F

REG. NO.	1st C.A	2nd C.A	EXAM	TOTAL	GRADE
01585	15	15	11	41	E
01586	08	09	05	22	F
01587	07	07	04	18	F
01588	09	10	04	23	F
01591	14	15	21	50	C
01592	16	17	07	40	E
01594	14	16	11	41	E
01595	12	12	16	40	E
01598	14	14	14	42	E
01599	16	16	08	40	E
01600	13	15	12	40	E
01605	10	11	07	28	F
01606	17	16	07	40	E
01607	17	17	07	41	E
01608	08	08	06	22	F
01611	16	16	14	46	D
01612	10	09	06	25	F
01614	03	05	00	08	F
01616	17	17	08	42	E
01617	03	06	03	12	F
01619	14	14	12	40	E
01620	13	15	13	41	E
01622	07	07	54	68	B
01623	16	17	07	40	E
01624	06	10	00	16	F
01627	13	15	45	73	A
01626	15	16	09	40	E
01630	12	12	34	58	C
01634	06	08	02	16	F
01635	18	18	04	40	E
01636	18	18	05	41	E
01638	16	16	17	49	D
01641	10	09	03	22	F
01642	12	17	29	58	C

REG NO	1st C/A	2nd C/A	EXAM	TOTAL	GRADE
01643	16	17	07	40	F
01645	06	06	06	18	F
01646	18	18	09	45	D
01647	17	17	16	50	C
01651	13	13	14	40	E
01652	15	16	09	40	E
01653	06	06	01	13	F
01654	11	11	07	29	F
01657	10	17	17	44	E
01661	14	14	18	46	D
01667	15	15	18	48	D
01669	16	17	14	47	D
01651	05	05	03	13	F
01643	13	13	08	34	F
01153	13	16	16	45	D
01139	13	15	17	45	D
01118	17	13	10	40	E
01114	16	10	16	42	E
0943	17	10	14	41	E
0909	14	14	25	53	C
0902	13	10	18	41	E
01140	14	10	33	57	C
0979	12	12	17	41	E
08064	10	11	19	40	E
01154	12	11	17	40	E
0965	10	10	13	33	F
01146	10	10	15	35	F
0948	11	11	18	40	E
0679	10	10	12	32	F
01152	10	10	25	45	D
0903	10	10	11	31	F
01141	10	10	10	30	F

FEDERAL COLLEGE OF EDUCATION (TECHNICAL) BICHI

SCHOOL OF BUSINESS EDUCATION
RESULTS SHEET

BEA116_2015_2016_NCE- BUSINESS EDUATION _ACCOUNTING_Year_1_STUDENTS
SHORTHAND THEORY 1
STUDENTS AT YEAR: 1

CA	Exam	Total	Grade
30	30	60	B
24	16	40	E
28	53	81	A
29	31	60	B
25	25	50	C
27	33	60	B
25	20	45	D
23	17	40	E
30	33	63	B
30	30	60	B
26	24	50	C
26	24	50	C
25	28	53	C
25	25	50	C
21	19	40	E
30	30	60	B
16	07	23	F
24	26	50	C
27	13	40	E
25	28	53	C
15	03	18	F
28	12	40	E
30	32	62	B
25	28	53	C
25	28	53	C
30	34	64	B
25	27	52	C
15	08	23	F
30	30	60	B
24	16	40	E
25	25	50	C
25	28	53	C
25	25	50	C
30	32	62	B
28	22	50	C
25	25	50	C
22	18	40	E
30	30	60	B
28	22	50	C
15	04	19	F
24	26	50	C
25	20	45	D

25	20	45	D
22	18	40	E
21	29	50	C
30	34	64	B
24	21	45	D
28	22	50	C
26	14	40	E
27	23	50	C
27	13	40	E
30	41	71	A
25	15	40	E
27	23	50	C
30	40	70	A
26	14	40	E
29	31	60	B
25	27	52	C
25	27	52	C
25	15	40	E
15	09	24	F
25	25	50	C
28	22	50	C
30	34	64	B
25	28	53	C
22	18	40	E
30	36	66	B
23	17	40	E
ABS		-	-
23	17	40	E
27	13	40	E
24	16	40	E
25	28	53	C
30	32	62	B
30	32	62	B
27	23	50	C
25	28	53	C
29	31	60	B
27	13	40	E
22	18	40	E
30	46	76	A
25	25	50	C
25	25	50	C
30	50	80	A
27	13	40	E
27	13	40	E
15	09	24	F
26	24	50	C
25	20	45	D
27	13	40	E
28	22	50	C
ABS		-	-
22	18	40	E
ABS		-	-
25	20	45	D
22	18	40	E
25	25	50	C

24	21	45	D
24	21	45	D
25	25	50	C
25	15	40	E
22	18	40	E
23	17	40	E
26	24	50	C
22	18	40	E
25	25	50	C
21	19	40	E
25	27	52	C
24	26	50	C
25	15	40	E
25	20	45	D
27	13	40	E
22	18	40	E
22	18	40	E
30	40	70	A
24	21	45	D
25	25	50	C
25	15	40	E
15	09	24	F
28	12	40	E
15	05	20	F
15	03	18	F
15	06	21	F
25	20	45	D
27	23	50	C
25	25	50	C
23	17	40	E
22	18	40	E
21	19	40	E
15	07	22	F
26	24	50	C
ABS		-	-
27	23	50	C
30	34	64	B
28	12	40	E
26	14	40	E
25	21	46	D
25	25	50	C
ABS		-	-
15	03	18	F
25	20	45	D
15	04	19	F
25	28	53	C
30	30	60	B
30	30	60	B
ABS		-	-
25	15	40	E
27	13	40	E
24	16	40	E
26	14	40	E
25	25	50	C
25	25	50	C

ABS		–	–
25	25	50	C
30	33	63	B
28	12	40	E
30	36	66	B
28	12	40	E
23	17	40	E
15	06	21	F
25	26	51	C
29	31	60	B
25	15	40	E
26	24	50	C
15	04	19	F
25	25	50	C
25	20	45	D
25	20	45	D
25	26	51	C
25	20	45	D
28	22	50	C
25	20	45	D
24	16	40	E
25	20	45	D
23	17	40	E
15	08	23	F
23	17	40	E
23	17	40	E
24	21	45	D
25	27	52	C
ABS		–	–
27	13	40	E
23	17	40	E
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FEDERAL COLLEGE OF EDUCATION, KATSINA
EXAMINATION MARKSHEET

SCHOOL: SEC EDUC (VOC & TECH) SEMESTER: 2 SESSION: 2015/2016

DEPARTMENT: BUSINESS EDUCATION LEVEL: 100 CREDIT HOURS: 2

COURSE CODE: BED 116 TITLE: SHORTHAND

COMBINATION	S/N	REG. NO	EXAM 60%	CA 40%	TOTAL 100%	GRADE	G.P.	W.P.	REMARKS
BUSS. EDU	1	37203	27	16	43	E	0	1	PASS
BUSS. EDU	2	37386	19	13	32	F	0	0	FAIL
BUSS. EDU	3	37405	13	12	25	F	0	0	FAIL
BUSS. EDU	4	37507	42	22	64	B	0	4	PASS
BUSS. EDU	5	37525	26	18	44	E	0	1	PASS
BUSS. EDU	6	37798	39	20	59	C	0	3	PASS
BUSS. EDU	7	37813	37	21	58	C	0	3	PASS
BUSS. EDU	8	37814	45	15	60	B	0	4	PASS
BUSS. EDU	9	37817	36	23	59	C	0	3	PASS
BUSS. EDU	10	37824	29	18	47	D	0	2	PASS
BUSS. EDU	11	37834	26	19	45	D	0	2	PASS
BUSS. EDU	12	37874	38	21	59	C	0	3	PASS
BUSS. EDU	13	352007	32	13	45	D	0	2	PASS
BUSS. EDU	14	371045	34	23	57	C	0	3	PASS
BUSS. EDU	15	371062	21	19	40	E	0	1	PASS
BUSS. EDU	16	371320	26	21	47	D	0	2	PASS
BUSS. EDU	17	371576	28	20	48	D	0	2	PASS
BUSS. EDU	18	371581	26	22	48	D	0	2	PASS
BUSS. EDU	19	371726	22	19	41	E	0	1	PASS
BUSS. EDU	20	371929	21	19	40	E	0	1	PASS
BUSS. EDU	21	372000	28	17	45	D	0	2	PASS
BUSS. EDU	22	372090	23	18	41	E	0	1	PASS
BUSS. EDU	23	372092	37	21	58	C	0	3	PASS
BUSS. EDU	24	372248	27	21	48	D	0	2	PASS
BUSS. EDU	25	380002	29	18	47	D	0	2	PASS
BUSS. EDU	26	380007	0	10	10	F	0	0	FAIL
BUSS. EDU	27	380012	26	20	46	D	0	2	PASS
BUSS. EDU	28	380079	39	21	60	B	0	4	PASS
BUSS. EDU	29	380099	38	26	64	B	0	4	PASS
BUSS. EDU	30	380132	34	21	55	C	0	3	PASS
BUSS. EDU	31	380139	35	21	56	C	0	3	PASS
BUSS. EDU	32	380179	45	23	68	B	0	4	PASS
BUSS. EDU	33	380186	7	10	17	F	0	0	FAIL
BUSS. EDU	34	380234	43	25	68	B	0	4	PASS
BUSS. EDU	35	380236	44	22	66	B	0	4	PASS
BUSS. EDU	36	380254	58	24	82	A	0	5	PASS

BUSS. EDU	37	380261	18	15	33	F	0	0	FAIL
BUSS. EDU	38	380305	57	32	89	A	0	5	PASS
BUSS. EDU	39	380340	49	21	70	A	0	5	PASS
BUSS. EDU	40	380346	17	11	28	F	0	0	FAIL
BUSS. EDU	41	380349	50	25	75	A	0	5	PASS
BUSS. EDU	42	380356	37	19	56	C	0	3	PASS
BUSS. EDU	43	380367	57	31	88	A	0	5	PASS
BUSS. EDU	44	380416	52	31	83	A	0	5	PASS
BUSS. EDU	45	380434	38	21	59	C	0	3	PASS
BUSS. EDU	46	380435	40	22	62	B	0	4	PASS
BUSS. EDU	47	380438	18	13	31	F	0	0	FAIL
BUSS. EDU	48	380472	57	31	88	A	0	5	PASS
BUSS. EDU	49	380483	36	21	57	C	0	3	PASS
BUSS. EDU	50	380503	16	12	28	F	0	0	FAIL
BUSS. EDU	51	380511	23	21	44	E	0	1	PASS
BUSS. EDU	52	380517	31	20	51	C	0	3	PASS
BUSS. EDU	53	380530	35	21	56	C	0	3	PASS
BUSS. EDU	54	380534	12	11	23	F	0	0	FAIL
BUSS. EDU	55	380609	4	10	14	F	0	0	FAIL
BUSS. EDU	56	380624	15	9	24	F	0	0	FAIL
BUSS. EDU	57	380666	14	11	25	F	0	0	FAIL
BUSS. EDU	58	380691	53	32	85	A	0	5	PASS
BUSS. EDU	59	380696	35	20	55	C	0	3	PASS
BUSS. EDU	60	380722	32	21	53	C	0	3	PASS
BUSS. EDU	61	380737	42	24	66	B	0	4	PASS
BUSS. EDU	62	380743	19	18	37	F	0	0	FAIL
BUSS. EDU	63	380792	29	21	50	C	0	3	PASS
BUSS. EDU	64	380805	30	16	46	D	0	2	PASS
BUSS. EDU	65	380808	24	16	40	E	0	1	PASS
BUSS. EDU	66	380818	29	24	53	C	0	3	PASS
BUSS. EDU	67	380828	15	12	27	F	0	0	FAIL
BUSS. EDU	68	380879	47	22	69	B	0	4	PASS
BUSS. EDU	69	380886	43	22	65	B	0	4	PASS
BUSS. EDU	70	380903	23	17	40	E	0	1	PASS
BUSS. EDU	71	380941	44	23	67	B	0	4	PASS
BUSS. EDU	72	380947	44	20	64	B	0	4	PASS
BUSS. EDU	73	380960	46	21	67	B	0	4	PASS
BUSS. EDU	74	380967	23	17	40	E	0	1	PASS
BUSS. EDU	75	380996	29	21	50	C	0	3	PASS
BUSS. EDU	76	380998	38	20	58	C	0	3	PASS
BUSS. EDU	77	381079	10	10	20	F	0	0	FAIL
BUSS. EDU	78	381096	40	21	61	B	0	4	PASS
BUSS. EDU	79	381101	26	20	46	D	0	2	PASS
BUSS. EDU	80	381154	48	21	69	B	0	4	PASS
BUSS. EDU	81	381171	35	21	56	C	0	3	PASS
BUSS. EDU	82	381187	30	20	50	C	0	3	PASS
BUSS. EDU	83	381232	25	21	46	D	0	2	PASS
BUSS. EDU	84	381253	25	15	40	E	0	1	PASS
BUSS. EDU	85	381287	19	15	34	F	0	0	FAIL
BUSS. EDU	86	381291	31	21	52	C	0	3	PASS

BUSS. EDU	87	381295	25	15	40	E	0	1	PASS
BUSS. EDU	88	381319	26	14	40	E	0	1	PASS
BUSS. EDU	89	381334	38	21	59	C	0	3	PASS
BUSS. EDU	90	381398	25	21	46	D	0	2	PASS
BUSS. EDU	91	381449	31	23	54	C	0	3	PASS
BUSS. EDU	92	381475	38	20	58	C	0	3	PASS
BUSS. EDU	93	381517	21	23	44	E	0	1	PASS
BUSS. EDU	94	381525	34	23	57	C	0	3	PASS
BUSS. EDU	95	381540	45	21	66	B	0	4	PASS
BUSS. EDU	96	381542	38	20	58	C	0	3	PASS
BUSS. EDU	97	381552	43	23	66	B	0	4	PASS
BUSS. EDU	98	381571	33	24	57	C	0	3	PASS
BUSS. EDU	99	381575	21	21	42	E	0	1	PASS
BUSS. EDU	100	381626	51	35	86	A	0	5	PASS
BUSS. EDU	101	381672	42	20	62	B	0	4	PASS
BUSS. EDU	102	381681	52	28	80	A	0	5	PASS
BUSS. EDU	103	381682	33	20	53	C	0	3	PASS
BUSS. EDU	104	381687	33	23	56	C	0	3	PASS
BUSS. EDU	105	381694	49	23	72	A	0	5	PASS
BUSS. EDU	106	381706	38	20	58	C	0	3	PASS
BUSS. EDU	107	381724	45	21	66	B	0	4	PASS
BUSS. EDU	108	381739	25	18	43	E	0	1	PASS
BUSS. EDU	109	381742	28	17	45	D	0	2	PASS
BUSS. EDU	110	381746	39	21	60	B	0	4	PASS
BUSS. EDU	111	381749	49	20	69	B	0	4	PASS
BUSS. EDU	112	381757	38	19	57	C	0	3	PASS
BUSS. EDU	113	381827	44	23	67	B	0	4	PASS
BUSS. EDU	114	381830	39	18	57	C	0	3	PASS
BUSS. EDU	115	381833	24	21	45	D	0	2	PASS
BUSS. EDU	116	381870	53	31	84	A	0	5	PASS
BUSS. EDU	117	381875	37	18	55	C	0	3	PASS
BUSS. EDU	118	381878	48	22	70	A	0	5	PASS
BUSS. EDU	119	381916	42	23	65	B	0	4	PASS
BUSS. EDU	120	381927	20	20	40	E	0	1	PASS
BUSS. EDU	121	381981	49	31	80	A	0	5	PASS
BUSS. EDU	122	382050	0	10	10	F	0	0	FAIL
BUSS. EDU	123	382129	33	21	54	C	0	3	PASS
BUSS. EDU	124	382168	38	21	59	C	0	3	PASS
BUSS. EDU	125	382228	30	23	53	C	0	3	PASS
BUSS. EDU	126	382233	40	23	63	B	0	4	PASS
BUSS. EDU	127	382235	43	21	64	B	0	4	PASS
BUSS. EDU	128	382314	48	22	70	A	0	5	PASS
BUSS. EDU	129	382333	36	21	57	C	0	3	PASS
BUSS. EDU	130	382335	48	21	69	B	0	4	PASS
BUSS. EDU	131	382368	21	19	40	E	0	1	PASS
BUSS. EDU	132	382469	42	23	65	B	0	4	PASS
BUSS. EDU	133	382526	38	16	54	C	0	3	PASS
BUSS. EDU	134	382536	9	5	14	F	0	0	FAIL
BUSS. EDU	135	382538	26	21	47	D	0	2	PASS
BUSS. EDU	136	382549	49	23	72	A	0	5	PASS

BUSS. EDU	137	382588	47	23	70	A	0	5	PASS
BUSS. EDU	138	382590	37	18	55	C	0	3	PASS
BUSS. EDU	139	382599	42	22	64	B	0	4	PASS
BUSS. EDU	140	382603	58	32	90	A	0	5	PASS
BUSS. EDU	141	382722	55	29	84	A	0	5	PASS
BUSS. EDU	142	382723	25	19	44	E	0	1	PASS
BUSS. EDU	143	382764	54	23	77	A	0	5	PASS
BUSS. EDU	144	382768	21	19	40	E	0	1	PASS
BUSS. EDU	145	382794	37	20	57	C	0	3	PASS
BUSS. EDU	146	382997	49	25	74	A	0	5	PASS
BUSS. EDU	147	383093	39	16	55	C	0	3	PASS
BUSS. EDU	148	383099	44	23	67	B	0	4	PASS
BUSS. EDU	149	383161	7	10	17	F	0	0	FAIL
BUSS. EDU	150	383169	19	18	37	F	0	0	FAIL

DISRIBUTION OF GRADES

A	B	C	D	E	F	TOTAL	%PASS	%FAIL	ABS.
21	30	42	17	20	20	150	~~92.71~~ 86.67	~~7.29~~ 13.33 %	0

EXAMINER'S NAME: _____ SIGN: _____ DATE: _____

H.O.D's NAME: _____ SIGN _____ DATE: _____

EXTERNAL MODERATOR: _____ SIGN _____ DATE: _____

FEDERAL COLLEGE OF EDUCATION (TECHNICAL), GUSAU

MARK SHEET

SCHOOL: BUSINESS EDUCATION DEPT: OTME

COURSE CODE: BED 116 COURSE TITLE: SHORTHAND

COURSE STATUS: CORE COURSE UNIT: 2

SESSION: 2015/2016 SEMESTER: FIRST CLASS: NCE I

EXAM NO	OBJ Q'TS	QUESTIONS 1	2	3	4	5	6	7	EXAM TOTAL		GRAND TOTAL	GRADE
0829		—	—	07	17				24	18	42	E
0934		00	06	03	15				24	18	42	E
0951		—	—	08	16				24	19	43	E
1042		—	—	07	15				22	20	42	E
1059		00	04	11	10				25	22	47	D
1065		08	02	12	—				22	20	42	E
1122		—	08	10	19				29	22	51	C
1130 ✓		02	—	08	09				19	22	41	E
1137		04	00	10	08				22	20	42	E
1146		00	08	06	09				23	22	45	D
1174		12	—	03	05				20	21	41	E
1175		00	00	07	15				22	21	43	E
1187		03	—	04	14				21	22	43	E
1188		00	00	12	11				23	20	43	E
1192 ✓		00	02	10	15				27	20	47	D
1197 ✓		04	08	12	15				39	27	66	B
1199 ✓		—	—	10	10				20	22	42	E
1219		02	00	10	16				28	22	50	C
1229 ✓		00	00	01	01				02	22	24	F
1233		12	02	11	18				43	29	72	A
1252		—	08	12	00				20	21	41	E
1256 ✓		04	04	09	14				31	22	53	C
1263 ✓		00	00	05	15				20	22	42	E
1284		06	00	04	09				19	22	41	E
1296		12	00	07	15				34	23	57	C
1297		00	00	08	11				19	22	41	E
1298		12	10	08	14				44	31	75	A
1314 ✓		02	06	09	09				26	22	48	D
1327		—	—	07	14				21	22	43	E
1328		12	16	11	17				56	37	93	A
1329 ✓		00	04	08	12				24	22	46	D
1350		12	06	12	10				40	27	67	B

ENTER: ZUWAIRA ALI PALALU SIGN: DATE:

SIGN: DATE:

EXAMINER: SIGN: DATE:

SIGN: DATE:

SCHOOL OF BUS. EDUC. FCET.
DEAN
DATE
PMB. 1089 GUSAU ZAM. STATE

RAL COLLEGE OF EDUCATION (TECHNICAL) GUSAU

MARK SHEET

BUSINESS EDUCATION DEPT: OTME

E CODE: BED 116 COURSE TITLE: SHORTHAND

SE STATUS: CORE COURSE UNIT: 2

ON: 2015/2016 SEMESTER: FIRST CLASS: NCE I

EXAM NO.	OBJ QTS.	QUESTIONS 1	2	3	4	5	6	7	EXAM TOTAL		GRAND TOTAL	GRADE
11351		00	04	05	13				22	21	43	E
11353		00	02	09	15				26	22	48	D
11365		00	00	04	01				05	21	26	F
11379		01	01	01	01				04	21	25	F
11388		00	00	00	00				00	21	21	F
11412		04	–	09	14				27	24	51	C
11420		00	08	11	13				32	25	57	C
11421		00	04	11	12				27	24	51	C
11423		00	02	11	09				22	23	45	D
11425		00	00	–	03				03	22	25	F
11443		10	04	09	15				38	26	64	B
11472		08	06	07	14				35	25	60	B
11473		04	00	09	15				28	23	51	C
11482		00	00	00	00				00	22	22	F
11485		00	00	00	00				00	22	22	F
11488		08	05	08	09				30	24	54	C
11494		–	–	12	08				20	22	42	E
11521		04	08	08	13				33	25	58	C
11522		08	16	09	15				48	32	80	A
11523		12	08	10	15				45	30	75	A
11549		08	–	11	03				22	21	43	E
11563		02	00	00	04				06	22	28	F
11567		00	00	10	13				23	22	45	D
11569		00	–	03	05				08	22	30	F
11578		00	02	11	15				28	23	51	C
11583		00	00	06	14				20	22	42	E
11589		00	00	07	13				20	22	42	E
11597		00	00	00	00				00	22	22	F
11633		0	0	0	2				02	22	24	F
11637		0	0	0	0				00	22	22	F
11638		0	0	0	20				20	22	42	E
11642		–	–	0	01				01	22	23	F

NER: ZUWAIRA ALI FALALU SIGN: Zuwe DATE: 30/5/16

AMINER: SIGN: DATE:

SIGN: DATE:

SIGN: DATE:

FEDERAL COLLEGE OF EDUCATION ([illegible]) GUSAU

MARK SHEET

SCHOOL: BUSINESS EDUCATION DEPT: OTME

COURSE CODE: BED 116 COURSE TITLE: SHORTHAND

COURSE STATUS: CORE COURSE UNIT: 2

SESSION: 2015/2016 SEMESTER: FIRST CLASS: NCE I

MAT. NO	OBJ QTS	QUESTIONS 1	2	3	4	5	6	7	EXAM TOTAL	C	GRAND TOTAL	GRADE
11656		–	08	06	13				27	20	47	D
11658		0	0	–	03				03	22	25	F
1665		–	–	08	17				25	21	46	D
1666		–	04	07	07				18	22	40	E
1673		–	–	07	11				18	22	40	E
1698		–	–	08	10				18	22	40	E
1700		–	05	08	14				27	23	50	C
1703		04	–	05	16				25	21	46	D
1710		0	0	0	0				00	22	22	F
1716		0	0	0	0				00	22	22	F
1745		04	12	11	13				40	27	67	B
1758		–	00	09	14				23	22	45	D
1760		04	10	07	14				35	25	60	B
1771		00	00	01	00				01	22	23	F
1773		08	00	08	12				28	23	51	C
1778		–	–	05	14				19	22	41	E
1784		00	01	–	02				03	22	25	F
1791		02	04	04	12				22	21	43	E
1792		00	00	00	00				00	22	22	F
806		–	00	11	09				20	22	42	E
807		0	0	0	0				00	22	22	F
819		0	0	02	17				19	22	41	E
836		00	02	05	11				18	22	40	E
839		00	00	04	14				18	22	40	E

ER: ZUWAIRA ALI FALALU SIGN: [signature] DATE: 30/5/16

MINER: SIGN: DATE:

SIGN: DATE:

SIGN: DATE: