CHAPTER ONE

INTRODUCTION

Background to the Study

Office technology and management (OTM) programme is a fundamental part of vocational education in the Department of Business Education in Colleges of Education. This programme offered knowledge, skills, in-depth administrative office preparation to meet the demands and challenges in the business environment (Okagbare & Fredrick, 2009). Office Technology and Management, according to Yakubu (2009), is a programme from which students can obtain office administrative skills applicable to various careers, industries as well as cognitive skills transferable to other employment situations and life experience. Some of the objectives of teaching OTM, according to the National Commission for Colleges of Education (2012), include equipping graduates with the right skills that will enable them engage in a life of work in the office as well as for self-employment and to produce Nigeria Certificate in Education (NCE) business teachers who will be involved in the much desired revolution of vocational development right from the primary to tertiary institutions. The knowledge and skills offered by the programme had advanced OTM profession.

Office technology and management profession had reached an advanced stage that the responsibilities of a secretary now extend to wider boundaries far beyond that of a mere typist. Thus a secretary can be regarded as a worker or office technologist who can be delegated with greater and more complex responsibilities which include decision making on simple and complicated issues, representing the boss in board meetings, and overseeing complex office duties in compliance to standard (Ugwu, 2009). The advancement had caused a revolution for use of computer.

There is a growing revolution throughout the educational sector for use of computer technology in the teaching and learning process. New and continuing advances in technology have contributed to the possibility of creating teaching materials in more accessible,

interactive and highly visual style. Online and real-time interaction is a powerful combination that makes teaching and learning interesting and participatory for both student and instructor (Piontek, 2013). Piontek further stressed that transmission of knowledge and information which used to be done through the lecture teaching method at the colleges of education level is globally being done electronically. The conventional mode of teaching office technology education courses in Colleges of Education in Nigeria is the lecture method.

The students in 21st century and ICT age are bored of long lectures and dictations, rote memorization and interaction in the classroom because technology is making learning better, more fun and interactive (Piontek, 2013). Students today have become digital natives and are very comfortable with technology long before they enroll in higher education. Technology has transformed how they live, communicate, interact and learn within and outside classes. They are much familiar with electronic learning brought by the advent of technology unlike the lecture teaching method which requires the physical presence of both students and the teacher in the four walls of a classroom setting.

Hadzimehmedagic and Akbarov (2013) stressed that in lecture teaching method the teacher plays the primary role in informing the learners through explicit instructions supplemented by textbooks and demonstrations. The teacher disseminates instructions to a set of students convening in a classroom. Lecture teaching method emphasizes learning through the teacher's guidance at all times while students are expected to listen and learn from the lectures. In order to ascertain students' achievement or educational outcomes from the series of instructions on topics taught in a subject of study, the teacher at interval administers tests in the class to measure the individual student's knowledge and the individual student's academic achievement in the subjects of study. Most of the tests are conducted in form of an essay, objective and practical. Lecture teaching method has its merits and demerits to both the teacher and the students. Akpoghol, Samba and Asemave (2013) posited that lecture method is one of the conventional methods of teaching that involves oral presentation of ideas.

Instruction in the classroom is often carried out on a one-to-many basis, with the teacher, before an audience of dozens of students, playing a traditional role which over the years had yielded positive impact.

The positive impact of lecture teaching method to the teachers and students according to Hadzimehmedagic and Akbarov (2013) include the fact that the students receive formal education and learn to focus on the study at hand. The teacher has full control of the direction of the lesson and the quality of the overall teaching and learning process. The method also allows the instructor to determine the aims, content, organization, pace and direction of a presentation. Since the conventional teaching method requires the physical presence of students and the teacher, the teacher monitors the students' learning progress and deals with unanticipated students' ideas, questions and comments. The advent of ICT had created a vacuum which lecture method could not fill, which have constituted its demerits.

Demerits of lecture teaching method apply to both teachers and students. This teaching method is teacher-centered where the teacher often presents information to students instead of encouraging them to interact, ask questions or make them understand the lesson thoroughly (Hadzimedagic & Akbarov, 2013). Most classes involve rote learning, where students depend on memorization without having a complete understanding of the subject. Long lectures and dictations, rote memorization and little interaction in the classroom often leave students' less attentive and less involved. They are prone to skipping classes and missing lesson altogether. Moreover, students in a conventional teaching method class have little opportunity to interact with their classmates or their teacher. To achieve the objective of teaching and learning process, Mbah and Onwuzo (2010), stated that teachers must adopt modern teaching strategies or techniques that will foster effective communication and interaction with students. Students benefit from interactive exercises and they can redo the exercises as many times as they like until they are satisfied with the results. As learners become used to evaluating and selecting materials, they are able to plan out their own use of web-based materials in their own time.

This helps them to become independent learners. Moreover, the use of technology can be time-saving. Creating course materials online for students to access can save the teacher the time and expense of photocopying. According to Rodriguez (2011), the use of social media technology in teaching and learning process has moved discussions and interactions that were once private and situated in the classroom to a more open space where others can contribute. The use of blended learning is the product of the transition of ICT from discussions and interactions that were once private and situated in the classroom.

Ukamaka (2014) in her study defined blended learning as a computer-mediated instructional strategy that leverages technology and focuses on the student-teacher relationship to enhance independence, engagement and achievement. Moreover, in blended learning; blending not only includes technology but real life experiences too. As the word indicates it is a blend of Teacher-Led Instructions by face to face interactive session, Web-Based Assessments through feedback, reflection, outcomes. Computer-Mediated Instruction includes digital, visual, e-learning and printed instructions using traditional study material. It involves a combination of lecture (face-to-face) and online technology-based learning (Wang, 2011). Aslam (2015) illustrated blended learning as the traditional classroom environment on one end of the spectrum and on the other end of the spectrum is the student learning at a computer at home. Poon (2013) was of the opinion that blended learning motivates students to learn on their own at their own pace and in their own time.

Blended learning, in the context of this study, involve combining blog and Google classroom (online) with face-to-face physical co-presence of teacher and students (lecture teaching method) (See Appendix XVII, p. 149). The universal nature and the special features of the blog as a platform for publishing the document online have made blog potential resources to foster an effective environment to support teaching and learning (Quan-Haase, 2008). The blog has over the years constituted one category of online sites that are growing in prominence in the world (Smith, 2013). The blog is an online or web publication of materials

or documents. A blogged material becomes automatically an online hosted material or document. The use of the blog had been diversified beyond just being used for marketing purposes, such as advertising and sales, to an instrument for teaching and learning. The platform provides room for interactions and can be accessed at any time possible by the users. It enhances privacy and information security that limits outsider access to the blog site. Most importantly, the blog has features that could support interactive style or communication and collaboration required for effective teaching and learning process (Smith, 2013). In agreement with the above fact, Reinder (2010) posited that learner autonomy has a significant role in successful learning since learning becomes more interesting, meaningful and continuous if learners take responsibility for their own learning as they learn what they are ready to learn. It can also serve as one of the alternative means for shy students to be able to voice their thoughts in and outside the classroom and to also collect their thoughts and articulate them in writing. Therefore, the use of a blog and Google classroom to support lecture method may be a good solution to improving interactive learning, social presence among students, academic achievement and interest.

Academic achievement is a multifaceted construct that comprises different domains of learning and covers a broad variety of educational outcomes. Its definition depends on the indicators used to measure it (Steinmayr, Meibner, Weidinger & Wirthwein, 2015). Academic achievement according to Adeyemi (2008) is the scholastic standing of a student at a given moment. It has to do with the successful accomplishment of goal(s). The purpose of testing an achievement is to help the teacher and the students evaluate and estimate the degree of success attained in learning a given concept. Adeyemi stressed further that it is also useful in testing the retention of information and skill. It is equally appropriate in determining the efficiency of instruction. One of the issues at stake in education today is students' achievement measure in relation to teaching and the overall success of learning outcome. Academic achievement represents performance outcomes of the extent to which a student, teacher or institution has

achieved their educational goals. Academic achievement is commonly measured by examination or continuous assessment, but there is no general agreement on how it is best ascertained. Students' interest is a strong mechanism that could influence their academic achievement in a subject.

Interest drives one towards action, especially when such action benefits one thereby forming a relationship between a person and an object (Isukpa, 2014). Okoro (2011) stated that one of the strongest factors affecting students' interest in sciences (basic science) is the method of instruction adopted by the teacher which highly correlates with their perception of the subject relevant to their future career. It encompasses the positive, pleasant feelings an individual has when trying to study a subject-matter (Magnus, 2008). Interest governs one's feeling and attitude towards a particular thing or activity. It implies, therefore, that the degree of interest one has in a subject or activity is determined by the level of value placed on the expected something derivable from the object or activity. If a student shows a higher interest in a course, this would help them to put in more time, effort and energy in learning which will, in turn, lead to higher or better achievement. Ukamaka, (2014) opined that direct interest increases the strength of ego-involvement of the learner and does not allow learners to be distracted by trivial extraneous events in the perceptual environment. Interest in this study simply referred to the mental state of students in relation to teaching and learning of office technology and management education. It is, therefore, necessary that teachers should use teaching methods that ensured active involvement, provide a suitable learning environment in teaching and learning process to improve academic achievement and stimulate the interest of the male and female students.

Gender is one of the variables that have been related to differences found in interest and academic achievement. In Nigeria, the circumstances of gender have strongly interested with culture to produce sex role-stereotypes, which is the socio-cultural classifications of human activities by sex in line with what the society considers as appropriate for one sex or

the other (Nzewi, 2010). Ukwueze (2010) is of the opinion that the instructional method used in the classroom has a way of either positively or negatively influencing students' gender and their academic achievements. Okoro (2011) noted that co-operative learning strategy favours females more than males while competitive learning favours males more than females. Gender is a very important variable in this study because personal orientation and thinking style of male and female students may play a crucial role in students' academic achievement and interest. Bertea (2009) opined that e-learning embraces the active participation of male and female students. Askar, AltunandIlgaz (2008) and Adas and Abu-Samais (2011) found a significant difference between male and female students exposed to blended learning in their study. Similarly, Mahmoud, Ahmed and Mirna (2012) reported that there is a significant difference between male and female students' who experience blended learning courses. With the contradictions and lack of a clear trend in gender influence on students' academic achievement and interest, more records of investigations have become necessary to establish a base for this study. Nwalado and Oru (2016) reveals that there is a continuous poor academic achievement of business education students in Nigeria Colleges of Education in recent years.

Information obtained from Colleges of Education reveals a poor performance of students of business education, in which office technology students' are inclusive. Osun State College of Education, Ilesha, Osun State, Federal College of Education (Special), Oyo, Oyo State and Adeyemi College of Education reveals that those who obtained credit grade and above were below 40 percent while those below merit were above 60 percent (Departmental record, FCE (Special), Oyo, 2018; Departmental record, Osun State College of Education, Ilesha, 2018) (See Appendix XVIII, Pp.150-153), thereby producing graduate that are below the standard of employers.

The high rate of unemployment among school leavers in Nigeria is an indicator that school leavers OTM graduates inclusive are deficient in requisite learning outcomes needed for employment; and moreover, those who eventually are employed are employed for a low

paid job without job security (See Appendix XIX, p. 154). The traditional method of teaching has been criticized by many educational theorists and researchers for its inability to facilitate active learning, thereby, retarding learners' interest, engagement and creativity (Reinder, 2010). In order to determined whether blended learning method will yield better academic achievement in office technology and management education and to ascertain gender effects on academic achievement and interest of students necessitated the present study.

Statement of the Problem

The records obtained from some Colleges of Education in South-West Nigeria indicates a decline in students' academic achievement in Office Technology and Management and Business Education in general. For instance, the summary of Office Technology students' results from Osun State College of Education, Ilesha, Osun State, Federal College of Education (Special), Oyo, Oyo State and Adeyemi College of Education, Ondo reveals poor performance of students in office technology and management (OTM) programme (See Appendix XVIII pp.150-153).

Moreover, the high rate of unemployment among school leavers in Nigeria is an indicator that school leavers (Office Technology Education graduates inclusive) are deficient in requisite learning outcomes needed for employment; and similarly, those who eventually employed are employed for a low paid job without job security (See Appendix XIX, p. 154). The continuous poor academic achievement and the high rate of unemployment, have been blamed on many factors among which are inadequacy of needed teaching and learning facilities, loss of students' interest in the traditional method of teaching, prevalent use of conventional teaching method in lesson presentations, high level of students' distraction due to excessive social activities and the advent of social media platforms that have diverted learners interest from spending quality time on their study to unproductive social interactions.

The traditional method of teaching has been criticized by many educational theorists and researchers for its inability to facilitate active learning, thereby, retarding learners'

interest, engagement and creativity. It is assumed that if the blog and Google classroom combined with lecture method of instruction delivery, may produce a better learning outcome. However, this assumption has no empirical evidence. Therefore, the problem of this study posed as a question is: what could be the effect of using blended learning method on office technology education students' academic achievement and interest in Colleges of Education in South-West, Nigeria?

Purpose of the Study

The main purpose of this study was to determine the effects of blended learning on Office technology and management students' academic achievement and interest in Colleges of Education in South-West, Nigeria. Specifically, this study sought to:

1. Determine the pre-test and post-test mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method.
2. Determine the difference in the mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method.
3. Determine the differences in the mean academic achievement scores of male and female students taught office technology and management education using blended learning method.
4. Determine the pre-test and post-test mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method
5. Determine the difference in the mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method.

6. Determine the differences in the mean interest scores of male and female students taught office technology and management education using blended learning method.

Significance of the Study

The findings of this study would be of immense benefit to office technology and management students, lecturers, Ministries of Education, Colleges of Education, curriculum planners, and future researchers.

Findings of this study will enlighten and create awareness on students on the need to adopt the use of ICT material to boost their academic achievement instead of just making use of it as a social interaction gadget. The students will value the use of their handset beyond just using it for unprofitable adventures such as watching pornographic picture, movies, chatting, etc. The experimental process will expose the students to other possible ways computer and internet facilities can be used to aid and provide their learning outcome. Adopting the method for teaching and learning by lecturers (teachers) is a way in which the benefits of this study will reach the students, especially as it may result to improvement in their academic achievement.

The outcome of this study will expose office technology lecturers to more effective techniques of promoting learning, which will likely help to minimize student's low achievement in office technology and management courses. It will make their teaching/learning activities successful. Since blended learning method is interaction-oriented, it will equally enable them to see the need to ensure that their classes integrate blended learning to give room for active participation of students. It will drive office technology lecturers to adjust their teaching method and recognize the need to make teaching and learning convenient for learner outside the classroom setting as a supportive tool for their learning. This will enable the teachers to enjoy teaching as students achieve high performance. The benefits of this study will reach the lecturer through the inclusion of the method in the curriculum and providing facilities by government and training for lecturers to make them

knowledgeable in the use of the proposed methods of teaching as it will be recommended by the researcher to the government.

The Ministries of Education through the findings and recommendation of this study be able to organize workshops, seminars and conferences for review of pedagogy in office technology to address the issue of integrating a new method of teaching of office technology education. It might help them in identifying the concept of learners' cognitive style and teachers' instructional style in educational programme that could be included in the review of office technology curriculum by NCCE. The findings would be useful to the curriculum planners, to plan office technology curriculum to include the use of blended learning and computer-assisted devices in teaching and learning process. Curriculum planners will find the findings of this study a relevant tool for curriculum reforms and improvement. The benefits will get to the curriculum planners and to the government if a comprehensive documentation of the findings and recommendation is forwarded especially for consideration and implementation by the authorities concerned.

The findings of this study will provide useful information to Colleges of Education. The Colleges of Education system can enrich their method of teaching office technology courses or develop a new programme of instruction based on the findings of this study. The College management will as a result of the findings of this study mandate lecturers to collectively embrace the use of blended learning in their teaching and learning process.

The finding of this study will be useful for future researchers. The statistical findings of this study will be a yardstick upon which future research can establish empirical facts for carrying out their research. The findings and recommendations will suggest gaps to be fill by future researchers. They could also benefit from this study by accessing the bound copy of the research report in the library or direct contact with the researcher, through manipulation, online, or journal among others and thus be provided with rich source of literature for their studies.

Scope of the Study

The study focused on the effects of blended learning on office technology education students' academic achievement and interest in Colleges of Education in South-West, Nigeria. The study was delimited to third year office technology and management students' in two Colleges of Education in South-West Nigeria (Federal College of Education (Special), Oyo, Oyo State and Adeyemi College of Education, Ondo, Ondo State). The study is delimited to the third year students because they are already familiar with the system compared to the other levels. Since the study required two intact classes to represent experimental group and control group the study was delimited to two colleges of education.

The study was delimited to four topics in Office Technology and Management Education (BES 327). Topic one the secretary: training, qualification, personal qualities, business attributes and functions, topic two the Secretary's duties: before, during and after meetings and procedures/terms used in meeting, topic three the receptionist: receptionist duties, types of callers, screening callers and handling receiving of visitors and topic four human relations: relationship with boss and colleagues. It was also delimited to the effect of gender on students' academic achievement and interest in office technology and management education (BES 327) when taught with blended learning method.

Research Questions

The following research questions guided the study.

1. What are the pre-test and post-test mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method?
2. What is the difference in the mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method?

3. What are the differences in the mean academic achievement scores of male and female students taught office technology and management education using blended learning method?
4. What are the pre-test and post-test mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method?
5. What is the difference in the mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method?
6. What are the differences in the mean interest scores of male and female students taught office technology and management education using blended learning method?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

1. There is no significant difference between the mean academic achievements scores of students taught office technology and management education using blended learning method and those taught using lecture method.
2. There is no significant difference between the mean academic achievements scores of male and female students taught office technology and management education using blended learning.
3. There is no significant interaction effect of treatment and gender on students' mean academic achievement scores in office technology and management education.
4. There is no significant difference between the mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method.

5. There is no significant difference between the mean interest scores of male and female students taught office technology and management education using blended learning method.
6. There is no significant interaction effect of treatments and gender on students' mean interest scores in office technology and management education.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter contains the review of related literature.

Conceptual Framework

Blended Learning

Interest

Academic Achievement

Office Technology and Management Education

Theoretical Framework

Theory of Multiple Intelligences

Distributed Learning Theory

Theoretical Studies

Historical Development of Blended Learning

Benefits of Blended Learning

Challenges of Adopting Blended Learning in Nigeria

Conventional and Lecture Teaching Method

Online/Google Classroom Learning Technology

Empirical Studies

Studies on the effects of blended learning on academic achievement

Studies on office technology, job performance and academic achievement

Studies on the effects of methods on academic achievement and interest

Studies on the effects of computer-assisted devices on academic achievement

Summary of Review of Related Literature

Conceptual Framework

The conceptual framework of the study reviewed in these sections include: Blended learning, interest, academic achievement and office technology and management education.

Blended Learning

Blended learning appears to have been in use since the popular advent of the Internet and the World Wide Web in the late 1990s (Friesen, 2011). Maxwell (2016) stressed that blended learning has its roots in online learning and represents a fundamental shift in instruction that has the potential to optimize for the individual student in ways that traditional instruction never could. Although schools have been using computers and technology for some time, until recently they haven't generally used technology to provide students with a true "blend" of instruction that gives them some element of control over their learning. Blended learning is viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities. Christensen, Horn and Staker (2013) noted that blended learning and blended instruction are terms that describe a formal education programme in which a student learns at least in part through online learning that is at least in part at a supervised brick-and-mortar location away from home and face-to-face traditional teaching and learning method. However, Friesen (2011) postulated that blended learning is the combination of face-to-face and technology-mediated instructional forms and practices.

Christensen Institute (2015) stated that blended learning represents a cultural shift in instruction and learning. Just as online learning represents a fundamental shift in the delivery and instructional model of distance learning. Blended learning offers the possibility to dramatically change how teachers and administrators optimize and maximize student productivity in a face-to-face setting. In other words, blended learning should be approached

not merely as a temporal construct, but rather as a fundamental redesign of the instructional model.

Studies have reveals the extent of the impact of blended learning in the teaching-learning process. In one of these studies, Acelajado (2011) noted that blended learning has an impact on the teaching of mathematics. Acelajado's concluded that the blended learning approach was more effective than traditional face to face learning approach. Contrary to Acelajado, Piontek (2013) reveals that online and real-time interaction is a powerful combination that makes the most of every moment for both student and instructor.

Senemoglu (2009) stressed that levels of students' engagement in the teaching and learning process are one of the most important indicators of the quality of teaching activities. Participation of students to explicit or implicit teaching and learning indicates that a sufficient level of quality of the teaching methods was utilized. In agreement with Senemoglu, Saritepeci and Yildiz (2014) reveals that blended learning has a positive effect on the active participation of students in courses and development of students' motivation and interest towards the course. With the various definitions and arguments given by several authors about blended learning, the defintion that was adopted for this study is: Blended learning, in the context of this study, is the combination of blog and Google classroom (online) with face-to-face physical co-presence of teacher and students (lecture method) to produce a blend that is more student-centered and encourages independent learning.

Interest

The concept of interest covers every aspect of human Endeavour. Psychologists have disputed as to the exact meaning to be assigned to the term and the precise nature of the mental state. Hornby (2010) posited that interest is a quality that somebody has when it makes them want to know more about something. In agreement with Hornby, Ukamaka (2014) stressed that interest is an important variable in learning because when one is interested in an activity, one is likely to perform positively. Ukamaka further stressed that interest is a major

factor in students' academic achievement. It is referred to as differential likelihood of investing energy in one set of stimuli rather than another.

Interest is characterized by Ukamaka (2014) as a situation in which one shows differential preference towards certain events, actions and objects. Interest consists of a set of feelings about some rather concrete matters such as a tendency to behave towards a topic in certain ways. Okoro (2011) is of the view that interest is an emotionally oriented trait which determines the vigor of the learner is tackling education and other activities; and results in the tendency to seek out and participate in activities of choice as against others. In the teaching and learning process, interest stands out as an important determinant of success. Invariably students' success in any subject is influenced in one way or the other by their interest in the subject.

According to Catholic Encyclopedia (2013) interest is a cognitive or intellectual energy directed towards any object. It is essentially selective; it concentrates consciousness on part of the field of mental vision, whilst it ignores other parts. It results in a deeper and more lasting impression and therefore plays a vital part both in each cognitive act and in the growth of knowledge as a whole. In view of several definitions by several authors, interest is operationally defined in the context of this study as the degree of likeness and active engagement of student on the learning of office technology and management education, it focuses on mental disposition to attain a better achievement and concentration to learn.

Academic Achievement

Academic achievement is a multifaceted construct that comprises different domains of learning and covers a broad variety of educational outcomes. Its definition depends on the indicators used to measure it (Steinmayr, Meibner, Weidinger & Wirthwein, 2015). Adeyemi (2008) stressed that the purpose of testing an academic achievement is to help the teacher and the students evaluate and estimate the degree of success attained in learning a given concept.

Academic achievement is a measurement of student level of engagement in academic contents and skills.

Moreover, Adeyemi in Ukamaka (2014) posited that academic achievement is useful in testing the retention of information and skill. It is equally appropriate in determining the efficiency of instruction. Academic achievement is the most highly valued method of determining whether a successful completion has taken place. This implied that in academic achievement, there is a need for successful completion through the efforts of the acquisition of academic contents and skills which educators want students to achieve. Akhtar in Kilian (2011) described academic achievement as an observable change in a person's reaction to an equally observable stimulus or situation.

This is in agreement to Steinmayr, Meibner, Weidinger and Wirthwein (2015) who stressed that academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, colleges, and universities. Steinmayr et al also posited that academic achievement is the pursuit of dreams. It is also seen as recognition of what makes a person unique and what one has to offer to others. It is the realization, the substance and the tangibility of a dream fulfilled. Steinmayr et al also saw academic achievement as the result of one's previous efforts laid towards a particular goal. Academic achievement is a knowledge acquired at the end of a learning section or a cumulative result obtained at the end of an overall learning process. The academic achievement is usually qualified to be excellent, very good, average or below average. With the various definitions that several authors have given concerning academic achievement, the defintion that will be adopted for this study is: academic achievement is the extent to which the students achieved success after a successful teaching and learning of office technology and management education. The outcome of the students post-test scores.

Office Technology and Management Education

Technology is the technical means by which people use to improve and make their lives and surroundings easier and better. Eduviere and Arolasafe in Olayanju (2016) stressed that technology can be defined as any set of productive techniques which offers a significant improvement (whether measured in terms of increased output or savings in cost). Nwazor (2014) with a contrary opinion posited that technology is a systematic application of science or an organized knowledge to practical tasks. It is also described as the knowledge of using tools and machines to do the task efficiently (Olayanju, 2016). However, technology, as used in business and in education, is an application of scientific knowledge and tool to solve practical problems. It takes the form of information technology whereby facts or details about something (information) are transmitted by various methods to solve varieties of the problem (Nwazor, 2014).

Sani in Olayanju (2016) stressed that Office technology education involves the process of guiding and initiating the learners at acquiring the necessary skills, facts, knowledge, habits and attitudes that will make them co-exist with others as useful and productive members of the society. It is a programme of instruction designed to equip it recipients with knowledge and skills for gainful employment with knowledge and skills for gainful employment.

Office technology management education cannot be discussed in isolation from secretarial studies; it is brought about as a result of the impact of Office technology on office procedures in the 21st-century office to foster gainful employment (Okagbare & Fredrick, 2009). It is used as a development to represent the word 'Secretary' which shows the expansion of technological development and transformation of the duties of the secretary. It is a form of education concerned with the development of skills, knowledge and abilities needed to enable the recipient function effectively in a modern office environment (Daniel & Moris, 2009). Onifade in Olayanju (2016) on the other hand saw office technologist as a force to be

reckoned with and an indispensable personally in any organization. His worth is not negotiable because he/she is a very versatile officer.

Office technology management education is a programme designed to equip students with office skills for employment in various fields of endeavours. In addition to the acquisition of vocational skills in Office Technology and Management, students are equipped with effective work competencies and socio-psychological work skills which are essential in everyday interactions with others. The new office technology programme incorporates the following six components in its design: office application, office technology, business and administrative management, numeric component, general studies and students industrial work experience scheme (Daniel & Moris, 2009).

In line with Daniel and Moris (2009); Okagbare and Fredrick (2009), Yakubu (2009) postulated that Office technology management education programme provides students with in-depth administrative office skills to meet the demands and challenges of the business environment. Through the programme, students can obtain marketable skills applicable to various careers and industries, as well as cognitive skills transferable to other employment situations.

Okagbare and Fredrick (2009) argued that Office Technology and management education is the solution to the problem of unemployment. Many Nigerians have realized that they need training that can make them become self-employed which is the required entrepreneurship transformation that Nigeria is envisaging. Office administration professional acts as an interface between the clients and other various administrative tasks, which are an integral part of the office technologist responsibilities. Office secretary who is the product of Office education is responsible for handling daily administrative operational needs. Okoro and Amagoh (2008) stressed that office technology education is a nomenclature that was used to replace Office studies as it is formally called. It is an efficient, effective, productive and functional education which lends itself to self-employment, self-reliance, paid employment

and consequently self-actualization. Similarly, Ogiagah (2009) opined that Office technology management education programme lays much emphasis on computer and computer-related courses. These courses are divided into a special area which includes Office studies, a technique in office management and control, information and communication technology application which includes ICTs, word processing, computer appreciation, web page design, desktop publishing, database management and general education relating to contemporary problems usually called general studies.

Office technology and management education has a very laudable objective as seen in the review above, though had suffered ridicule in the past because of their duties in the office operation. Their duties were attributed to that of a mere typist, receptionist and filling officer that the literature reviewed had contradicted. The Office technology and management education prepares Office technologists, who can operate 21st-century automated office and attend to other duty that makes them the brain box of every office. Various definitions given by several authors have given concerning office technology and management and in view of the arguments, the defintion that will be adopted for this study is: Office technology and management is a branch of business education programme in colleges of education that prepares her beneficiaries with knowledge to become office management professional. It could also be defined as an option or area of specialization in business education programme in colleges of education in Nigeria.

Theoretical Framework

This section covers the theory of multiple intelligence and distributed learning theory which gave the work its theoretical base.

Theory of Multiple Intelligence

This theory was developed by Howard Gardner, Co-director of project zero at Harvard University Graduates School of Education in 1983. This theorist holds that our school systems

which reflect our culture, teach, test and rewards primarily depend on two kinds of intelligence - verbal and logical-mathematical without reference to others. Gardner holds the view that students reflect how they learn and what interests them. This implied that if educators teach their students to know that there are other intelligence besides only verbal and logical, and then students will have better chances of learning. The intelligence includes visual/spatial, body/kinetic, musical, interpersonal intelligence.

Gardner has recognized each of this intelligence as equally important to learning. This intelligenceprovides the foundations for visual arts, music dance, and drama and through these art forms, most students will not only find the means for communication and self-expression, but the tools to construct meaning and learn almost any subject effectively.

Relating this theory to the present study, it is evident that blended learning is a highly effective means of reaching students with intelligence that are not reached through traditional teaching methods (lecture method). The intelligence is inherent in the blended learning approach in which students are allowed to learn using computer-supported devices even outside the usual lesson time and learn at their convenience. Hopefully, blending learning will be the foundation for future development of multi-intelligence in students and this could promote students interest and achievement in OTM programme in colleges of education. Instruction for cognitive skill and objectives without affective dimensions may be efficient but not effective. Since blending learning method requires all the intelligence to be effective, the theory will be appropriate for this study as it will help to improve the teaching and learning of Office technology education which invariably leads to students' academic achievement.

The theory of multiple intelligence did not stress any improvement over traditional classroom learning especially in the area of adopting ICT in teaching and learning process. The theory did not give backing to the use of technology to aid learning especially that students and content to be decentralized. These therefore called for the distributed learning theory.

Distributed Learning Theory

Distributed Learning theory was propounded by Edward A. Fagen in the year 2000 in a book titled: Distance education and distributed learning. The theory according to Fagen (2000) postulated that distributed learning is an instructional model that allows instructor, students, and content to be located in different, non-centralized locations also that instruction and learning occur independently of time and place. The distributed learning model can be used in combination with traditional classroom-based courses, with traditional distance learning courses, or it can be used to create wholly virtual classrooms. This process of collaboration between people through the means of technology without meeting face-to-face is very different from traditional distance learning programmes. Distributed learning draws on multiple types of expertise and cultural knowledge from community resources outside of the school. Distributed learning is considered an improvement over traditional classroom learning because of the variety and breadth of the collection of participants, both human and inanimate, who are contributing to the overall knowledge/experience base.

Distributed learning theory reveals the following benefits to teaching and learning process.

(i) Learners gain a greater degree of control over how, when and where their learning occurs. They also increase their level of responsibility for their own learning and are no longer passive receptacles of information and knowledge.

(ii) Instructor gain greater ability to organize and design environments that maximize learning opportunities and more freedom to experiment with effective new learning modes.

(iii) Instructor gains greater ability to allocate resources for learning opportunities. An abundance of research shows that alternatives to the traditional semester-length classroom-based lecture method produce more learning. Some of these alternatives are less expensive; many produce more learning for the same cost.

(iv) Distributed learning can also provide beneficial features that are not easily replicable in classroom instruction such as immediate feedback.

(v) Distributed learning can also be used to supplement regular classroom instruction and it is more effective than stand-alone classroom instruction.

The theory is in support of the study at hand, it is not out of place if teaching and learning process is structured in a way that it will bring about better learning. Distributed learning is an instructional model that allows instructor, students, and content to be located in different, non-centralized locations so that instruction and learning occurindependently of time and place. Using everyone's contributions on a particular topic creates an environment for distributed learning to take place. The theory according to the above review is considered an improvement over traditional classroom learning, serve as a base for the present study since it supports that students and content can be decentralized.

Theoretical Studies

This theoretical studies related to this study are reviewed in this section as follows:

Historical Development of Blended Learning

The concept of blended education had its origins in distance education, which initially emerged as mail order courses that began over 150 years ago. Despite its longevity, distance education’s reputation is viewed as convenient but of lower quality than traditional education. This reputation carried over into virtual (including blended) courses and degrees when these were first instituted (Gomes, 2014). Virtual and blended institutions, especially in the early days, were perceived as lesser quality than programme at which the teacher delivered all instruction to the student in the same immediate physical space without any distance education component (Güzera & Caner, 2014).

In the late 1980’s and early 1990’s CD-ROMs were developed for computer-assisted instruction, while internet-based blended learning was first used in the 1990’s. The growth of

both private for-profit institutions and the flexibility of Web 2.0 technologies accelerated the expansion of blended learning environments dramatically (Alebaikan, 2012).

Reactions to the expansion of blended learning into established educational institutions were initially mixed, especially from the faculty perspective (Mattern & Shaw, 2010). Mattern and Shaw stressed that some faculty reported concerns that students might feel lost and not able to communicate with others as well as in a traditional face-to-face classroom. However, blended learning has been shown to have several advantages over online learning: the courses are accessible, pedagogically effective, and have appealed to an increasingly nontraditional student population. These courses also provided instructor interaction and can provide a community of support which has been shown to be necessary for student retention (Gomes, 2014). Because of these reported advantages, it was therefore essential to examine whether blended learning might lead to results which will increase student persistence and the confidence needed to succeed in the initial stages of postsecondary education, as this is the point in educational life in which students most frequently fail to persist (Schneider & Yin, 2011).

Blended learning shows promise of responding to student desires for increased access and lower costs (Babb, Stewart & Johnson, 2010; Heaton-Shreshta, Mayb & Burkec, 2009). However, some studies indicates some traditional faculty shows outright hostility toward or harbored reservations about blended educational environments. Heaton-Shreshta, Mayb and Burkec (2009) observed that students' perceptions of these new technologies were favorable. Students wanted the service, but were being told initially that the service desired was inferior in quality.

The increasing need to offer flexible access to higher education, driven by students' financial and personal responsibilities and increasing competition among postsecondary institutions for students, made it increasingly likely and obvious that blended education would

continue to expand as one of the entrepreneurial initiatives to meet student demand (Siemens & Tittenberger, 2009; Lloyd-Smith, 2010).

Blended courses (also known as hybrid or mixed-mode courses) are classes where a portion of the traditional face-to-face instruction is replaced by web-based online learning. McGee and Reis (2012) pointed out that while there is not absolute agreement within higher education on the exact make-up of a blended course, institutions generally use "blended" (or related terms) to refer to some combination of on-campus class meeting and online activities. Blended learning is a phenomenon subjected to much on-going research.

Blended learning in the classroom is a concept that began as a higher education idea and now transferred down into elementary grades. According to Kuo, Blland, Schroder and Walker (2014), blended learning is an approach that combines face-to-face interactions with technology-based learning. Kuo et al further noted that blended learning can also be referred to as hybrid learning and it's based upon face-to-face interactions 67 percent of the time and technology interactions 33 percent of the time. Many educators have implemented this model in their classrooms to enhance reading and math instruction. With that, project-based learning is also implemented with the new technology resource.

The classroom may also be set up in a variance of ways. While the idea is to have the technology portion less than 50 percent of the time, teachers want to use the technology-based pieces as a way to enhance their instruction. Blended learning gives educators the opportunity to build differentiated instruction based on individual student needs. Blended learning in a classroom incorporates daily instruction in small or whole group lessons, and then a technology portion where students are receiving interventions, practice, or enrichment time based on their specific needs. While this started out as a concept for higher education, several high schools, middle schools and elementary schools have adopted this idea in their schools (Kuo, et al, 2014).

Many teachers and districts choose to incorporate technology through computer-based reading and math programs, other choose to implement technology as through web-based programme that focus more on creativity. In the article, Using Blended Creative Teaching, many teachers choose to experiment with blogs and online quizzes to incorporate technology in their classroom. Lou, Chen and Shih (2012) used online journals, such as blogs, instead of paper and pencil assignments. Using technology in the classroom to add to instruction helps engage students and reinforce ideas of students sharing what they know using different avenues.

Blended learning was not just implemented in higher institution of learning. Much secondary education and elementary classrooms have taken on the challenge to introduce young students to technology-based programs that will enhance reading instruction. According to Barshay (2011), school districts all over America are advocates of blended learning in elementary school. In fact, a specific school in Los Angeles, California has implemented a one-to-one technology program, based on blended learning. Barshay illustrated the importance of introducing students to blended learning and technology to prepare students for the technological advances in our society.

McGee and Reis (2012) observed that in blended learning quite often the process of design is emphasized as one of the redesigns, implying that those involved in the design process are willing and able to see beyond what has been done in the traditional classroom and re-conceptualize what can be done in multiple delivery modes. The addition of technology to any academic program must be accompanied by fundamental process redesign. Blended learning as an education model which can integrate e-learning which has improved in parallel with new and technologic development with traditional learning which provides the integration in the classroom.

Graham in Nazarenko (2015) opined that blended learning approach as a combination of face to face with computer-mediated instruction. Blended learning as a method of

instruction that combines online with face to face learning activities that are integrated into a planned, pedagogically valuable way and where some of the faces to face is replaced by online activities. Blended learning is a new type of education prepared for a certain group by combining the positive aspects of different learning approaches. Blended learning will provide a big convenience for the course to achieve its target by combing the face to face interaction in traditional learning and time; place and material richness provided by web-based learning. According to Kuo, Blland, Schroder and Walker (2014), blended learning is an approach that combines face-to-face interactions with technology-based learning.

Sanprasert 2010 compared a blended learning approach to a traditional classroom setting, and students' perceptions about the extent to which they believe they are autonomous and whether they would show a change in their behavior towards their language learning. It was found that in the blended learning environment their behaviors were changed to some extent and they believed they were autonomous, in contrast to those students in the traditional approach. The studies mentioned above examined the blended learning environment from various aspects; however, no research has been done to examine specific aspects of a blended learning model in relation to learner autonomy.

Benefits of Blended Learning

The blended course has proven to be among the most popular choices for students at institutions where they are offered (Drysdale, Graham, Spring& Halverson, 2013). At first glance, this popularity seems intuitive because blended courses allow students and faculty to take advantage of much of the flexibility and convenience of an online course while retaining the benefits of the face-to-face classroom experience. Although fully online learning has become well established in higher education, many institutions appear to be struggling with conceptualizing and implementing blended learning. Yet, where blended courses have succeeded, they have most often done so when strategically aligned with an institution's mission and goals. According to Aycock, Garnham and Kaleta in Kashefi, Ismail and Yusof

(2012), stressed that the development and delivery of blended courses can be used to address a variety of institutional, faculty, and student needs.

Drysdale, Graham, Spring and Halverson (2013) stressed the following as benefits of blended learning.

(i) For universities/polytechnics or colleges, blended courses can be part of a strategy to compensate for limited classroom space, as well as a way to think differently about encouraging faculty collaboration.

(ii) For faculty or department, blended courses can be a method to infuse new engagement opportunities into established courses or, for some, provide a transitional opportunity between fully face-to-face and fully online instruction.

(iii) For students, blended courses offer the conveniences of online learning combined with the social and instructional interactions that may not lend themselves to online delivery (e.g., lab sections or proctored assessments).

If an institution's blended learning strategy can be designed to address the needs and dynamics of all three constituencies (institution, faculty or department, and student) simultaneously, blended learning can become a powerful force for institutional transformation. U.S. Department of Education's (2010) in the study evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning. The study reveals that students in online conditions performed modestly better, on average, than those learning the same material through traditional face-to-face instruction, notably, instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction. Below are some of the benefits of modern instructional resources by Ebhodagbe and Nwabufo (2016):

i. **They promote better teaching and learning.** Blended learning and modern instructional facilities are very important in the teaching/learning process in that apart from the fact that they enhance learning and increase the rate and degree of conception,

they also ease the work of the instructor. Computer-aided resources are objects, devices and materials that are used by teachers or instructors to share their knowledge with learners who decode such knowledge by analyzing and interpreting them to facilitate effective learning.

ii. **The arouse learner's interest.** Computer-assisted resources or modern instructional resources according to help to inculcate in students the ability to evolve acumen in concepts presented during the teaching and learning process. Computer-aided resources that are relevantly chosen and effectively used enhance proper internalization of concepts by learners. They also help them to find salient facts about topics under discussion. They introduce variations in the teaching/learning process and serve as stimuli or motivation for students to learn and be interested in the subject. This well adopted and used computer-aided facilities arouse the students' interest in that they are always eager to attend classes and motivate them to learn. They also assist the teacher to effectively teach with little effort.

iii. **They stimulate learners to be active during the course of instruction.** A social relationship is established between the effective use of computer-assisted devices and the teaching/learning process. The relationship formed, help students to associate the material or facility with the concepts of fact they were taught, they by enhancing internalization and retention of concepts taught.

iv. **They make learning environment rich.** The used of modern instructional facilities or computer-aided resources has the potential to transform nature, the learning environment, and envision a new learning culture. Interactivity, flexibility and convenience have become the order of the day in the ICT age supported environment. Nte (2014) asserted that as we become increasingly supported by ICT, teaching and learning will not be the same as before. We will have to make use of the rich and exciting opportunities offered by the new technologies in education to reach our new

goal and vision. To appreciate the integration of automation in teaching and learning. The major hallmark of this learning transition is that it shifts the focus from teacher-centered to learner-centered teaching and learning process. Nte stressed that learners are able to discover themselves and their abilities through the utilization of various computer devices and facilities. Ntefurther asserted that this new environment also involves a change in the roles of both instructors (teachers) and learners (students). The role of the teachers will change from knowledge transmitter to that of facilitator, knowledge navigator and sometimes as co-learner. The interfaces of the computer facilities create and make the learning environment rich and friendly, learners will have more responsibilities of their own learning as they seek out, find, synthesize and share their knowledge with others.

v. **Creating new cultures.** Computer-assisted learning facilities or resources improve learning, motive and engage learners, promote collaboration, foster inquiry, exploration and create a new learner-centered learning culture. They permit the move from a reproductive model of teaching and learning to an independent, autonomous learning model that promotes initiatives, creativity and critical thinking with independent research. Teachers are expected to create a new flexible and open learning environment with interactive, experiential and multimedia-based delivery system. They help teachers and learners to communicate and collaborate without boundaries thereby allowing the teachers to bring the whole world into classroom activities.

vi. **Creating websites for digital content.** With the availability of online facilities, it is now possible to create websites where digital contents are made available for online education to support and assist face to face instruction in an innovative way. Communication with e-mail, searching for information, locating a proper website is now the key to success. Developing online and offline learning resources using various

learning management system and software/tools is one of the key competencies of modern day teachers.

Reasons for Adopting the Blended Learning Model

The main benefit of blended learning is the opportunity for students to follow an individualized learning plan. This is particularly helpful to students who need to dedicate more time to understanding a specific topic area, at-risk students who need a specialized plan to get back on track to graduate or advanced students who need a quicker pace to remain fully engaged. Unlike online-only education models, this academic model affords students who are working parents the opportunity to benefit from online education supervised by classroom teachers and mentors while still surrounded by their peers. With blended learning, teachers can use online tools and resources as part of their daily classroom instruction. Blended teaching helps teachers find an approach that is more engaging for the present generation of students (Olelewe, 2014). Olelewe further stressed that the use of computers and online learning in education requires a much larger shift in thinking than simply adding a few computers to classrooms. Blending learning requires that teachers approach their role differently as guides and mentors instead of a purveyor of information. Classrooms must be redefined as flexible learning environments, in which students learn in a variety of ways while communicating and collaborating with others who are outside their school. Learning should be redesigned to go beyond the classroom walls and the confines of the school in other to assist students to understand abstract but difficult subjects like programming, mathematics, physics, Numerical methods, Real analysis among others (Olelewe, 2014).

According to Abioye (2010) blended learning devices - online such as the web, internet, multimedia, computer, projector, television and social media provide easy access to quality learning materials and make a reasonable and responsible contribution to the learning process. If the teacher is not conversant with a method or technique and devices uses in class, the teacher may end up doing more harm to the learners than if he did not teach at all. In

support Abioye, Adesoji (2012) opined that blended learning in a way comprised of a computer, ICT materials and applications which aid information collection and dissemination, research and global exchange of ideas that are critical for advancing meaningful educational initiatives and understanding issues related to global development. Therefore, if the method is well known to the teacher, then the teacher can use techniques that can be easily combined with different methods used in teaching different units of a course so as to achieve the objectives set by the teacher.

In today's classroom, blended learning often refers to a combination of online curriculum and face-to-face instruction. Olafare, Francis and Orifa (2018) implied that blended learning is an important factor in this information age so much so that when properly adopted and applied holds a great promise to improving teaching and learning in educational institutions. It is an important instructional tool to facilitate the transfer of many types of information and an effective means of communication in schools and colleges. As noted by Carner (2010), when scholars started to employ the online technologies in the field of education, the two forms of learning environments, namely, face-to-face and distance learning environments remain largely separate because they use different media or method of combinations and addressed the needs of different audiences. For example, face-to-face learning typically occurred in a teacher-directed environment with person-to-person interaction in a live synchronous environment.

Carner further stressed that distant learning systems put emphasis on self-paced learning and asynchronous interactions in the text-only environment. In the same way, earlier models of online learning environments put emphasis on the learner-material interactions in the text-only environments and mostly ignored the human-human interaction. Rather than simply making online technologies available to students, the initiatives in this field are characterized by the introduction of flexible and innovative teaching/learning technology into teaching. Thus, in terms of providing a human-to-human interaction as well as diminishing the

isolation from other learners forces distant learning scholars to find out a solution for the instruction delivery models that they can offer to their students. Consequently, the need for collaboration between the face-to-face and online learning leads the educators towards a new approach to teaching and learning which is called as hybrid or blended learning.

Conventional and Lecture Teaching Method

Conventional teaching refers to a teaching method involving instructors and the students interacting in a face-to-face manner in the classroom. These instructors initiate discussions in the classroom and focus exclusively on knowing the content in textbooks and notes. Students receive the information passively and reiterate the information memorized in the exams (Wei-li, 2016). Technology in education is not something new in today's classrooms, but many education systems are still limited by conventional teaching and learning methods (Laurillard in Wei-li, 2016). Many teachers are still teaching their students in the same manner as how they were taught and how their own teachers were taught, not much of progress in terms of the teaching perspectives (Anglin & Anglin, 2008).

Transformation to less conventional methods of teaching results is in fear and reluctance from teachers, who find the change hard, and risky (Chiang, Chapman & Elder, 2010). It would be difficult to stop students from copying the notes from the board and at the same time ensured that every student is paying attention in the class because the lecturer was too busy explaining the lecture. Wei-Li, (2016) opined that conventional teaching is also limiting the room for more creative thinking and also seldom considering individual differences. It is necessary to realize these limitations in conventional teaching and take a step to move forward.

Devinder and Zaitun in Wei-li (2016) noted that many lecturers are still using conventional teaching and that in conventional teaching classrooms, while the lecturer is explaining and writing on the board, students will be copying the same thing onto their notes, some day-dreaming and some sleeping. Ahmed (2013) reported that in a conventional

classroom, students become passive learners, or rather just recipients of teachers' knowledge and wisdom. They have no control over their own learning. Teachers make all the decisions concerning the curriculum, teaching methods, and the different forms of assessment. Duckworth (2009) asserted that teacher-centered learning actually prevents students' educational growth.

Contrary to the opinion of Brown (2008); Duckworth (2009); Ahmed (2013) claimed that student-centered learning approach gives students ownership over their learning and helps them make necessary decisions and value judgments about the relevance of the content and the methods of teaching to their own lives and interests. Wolk (2010) also reported that in student-centered learning, students play a significant role in designing their own curriculums. The teacher plays the role of a facilitator or guide who helps students achieve their goals. This advantage and limitation could be applied to a lecture method which over the years had been in use in colleges of education, qualifying it to be referred to as the conventional teaching method.

Lecture method is often used to deliver a large amount of information to the students in a short period (Berry, 2008). According to Gehlen-Bauum and Weinberger (2014) lectures are designed to deliver new information to a large group of students. This method is known to be effective in dealing with a large class. However, it could also be used for a small class. Research indicates that this method dominates most of the tertiary institutions (Deslauriers, Schelew & Wieman, 2011). Berry (2008) argued that the lecture method lacks the effectiveness of an active learning approach. Franklin, Sayre and Clark (2014) posited that students taught in lecture-based classes learn less than those taught with activity based reformed methods. Lecture method is frequently a one–way process unaccompanied by discussion, questioning or immediate practices that makes it a poor teaching method (Al-Rawi, 2013). Al-Rawi further emphasized that the lecture method concentrates on information rather than learners.

In the lecture method, the teacher tells the students what to do instead of activating them to discover for themselves (Miles, 2015). According to Guisti (2008), the formal lecture method is primarily used when presenting information to large groups. Communication is virtually a one-way communication from instructor to students. Student participation is severely limited. The informal lecture includes active student participation. Learning is best achieved if students participate actively in a relaxed atmosphere; therefore, the informal lecture is encouraged over the formal. Active student participation can be achieved through the use of questions and is an effective two-way communication process.

Online/Google Classroom Learning Technology

There are various ways for students to explore more information. Learning is facilitated conveniently in a web-based environment. One common tool students like to use is the Internet, and followed by another form which is e-learning (Wei-li, 2016). Oncu and Cakir (2011) opined that the students find learning using the technology helpful to their study as well besides the conventional teaching environment because this new way of learning is not boring, they still can interact with the computer or the learning application. Therefore, it is also considered as interactive learning.

The use of technology in education is necessary because students are known as digital natives. Students nowadays are highly connected with technology in their daily lives. They use the Internet to search for information to assist their learning. They also experience various ways of collaboration and communication with their peers and teachers through social networking tools and also chatting software (Shank in Wei-li, 2016).

Supporting the opinion of Shank, Oncu and Cakir (2011) asked this question, why are educational institutions moving to the online learning environment? They responded as reveals in their study: Firstly, the education sector has recognized the importance of involving web-based learning due to the fact that the students belong to the “digital age”, it creates the sense of familiarization for them. Hence, the students’ interest in learning is stimulated.

Secondly, this learning environment is able to provide synchronous and asynchronous learning activities with the exchange of knowledge on the data communication platform where the students are allowed to communicate with the learning materials and also educators. This provides the opportunity for the students to learn in an interesting manner with the inclusion of interactivity provided in the context. Thirdly, the online learning environment is popular because it has the effect on enhancing learners' engagement which influences the results of learners' achievement, learners' retention and personal development. Lastly, this learning environment is also contributing to the effectiveness of facilitation.

It has been a norm to see how frequent students use technology in their learning. Therefore, it is necessary to use technology in education to enhance students' learning experiences. Although technology can be positively influenced learning, there are teachers who do not have the confidence to include them in their teaching. Due to lack of guidelines provided to teachers and education institutions on how they can transform from conventional teaching to learner-centered teaching, many times technology is used for the sake of using it (Kiili in Wei-li, 2016).

Using multimedia in learning can also help to promote deeper learning and has a positive impact in creating a learner-centered teaching environment. Multimedia learning is able to gain better attention from learners, achieve higher retention rate and also encourage better participation rate among learners (Oncu & Cakir, 2011). Multimedia learning is said to be effective in the transformation process from a traditional teaching approach to blended learning and also to online learning (Demirer & Sahin, 2012).

Having the technology in education and also the use of multimedia learning, this would help bridge the transition gap of moving towards learner-centered teaching (Wei-li, 2016). Technology plays a vital role in education. There are researches conducted had shown that Social Media contributes to the development of collaborative learning, but due to its use,

it also provides a distraction to learners. Several LMS (Learning Management System) solve this issue, but the cost of server and maintenance is another problem (Tess, 2013).

Thus Google had introduced new tool that help the educators to become more effective in learning. Google Classroom is one of the free services by Google in Gsuite for Education plan. It promotes paperless instruction for streamlining assignment, it boosts collaboration and fosters seamless communication to make teaching more productive and meaningful (Ventayen, Estira, De-Guzman, Cabaluna & Espinosa, 2018).

Google Classroom can be easily deployed in the URL classroom (Google.com), educators can set up a classroom in minutes and create content for students. It is also free for schools, best-in-class, security is also included without cost for plan holders (Ventayen, Estira, De-Guzman, Cabaluna & Espinosa, 2018). The platform also integrated with other Google tools to help educators provide instant feedback and track a student progress to improve performance, it has also a mobile application for easy access anytime and anywhere. In the review of eLearning theories, frameworks and models, Mayes and De-Freitas in Ventayen et al (2018) emphasized that it is important to be clear about the assumptions underlying eLearning designs, they claim that there are really no specific models for eLearning, only enhancements of existing models of learning which use technology to achieve better learning outcomes. The study wants to explore the convenience in the new technology to assess if the academic achievement of students in office technology can improve and to determine if the method is worth adopting in South-West Nigeria colleges of education.

Empirical Studies

This section contains a review of empirical studies conducted by other researchers. The studies were discussed to extract similarities, differences and lacunas for a base for the present study to avoid repetition.

Studies on the effects of blended learning on academic achievement

Saritepeci and Cakir (2015) conducted a study on the effect of blended learning environments on student's academic achievement and student engagement in Turkey. The main purpose of this study is to analyze the effects of blended learning environment on middle school students' engagement and academic achievement. Six research questions guided the study and six null hypotheses were tested. Pre-test-post-test control group quasi-experimental design was used for the study. The population of the study comprised of 7th grade students in four middle schools located in Ankara's Ayas district. The sample of the study comprised of 107 students'. 52 students' in the experimental group and 55 students' in the control group. Three instruments were used for data collection in the study – Information Technology Proficiency Level Perception Scale (ITPLPS), Academic Achievement Tests (AAT) and Engagement Scale (ES). The data was collected by administering the achievement test and the engagement scale before and after the treatment. The results of the study reveals that the blended learning environment had a meaningful increase in average academic achievement when compared to students in the face-to-face learning environment. In addition, blended learning has a medium level effect size on students' levels of academic achievement. No meaningful statistical differences were detected for students' engagement between both groups. However, in a blended learning approach, average development of student engagement shows a meaningful rise when compared to face-to-face learning approach.

The current study is similar to the previous study in the sense that both studied blended learning approach and measured its effect on students' academic achievement. The two studies adopted a quasi-experimental research design. The present study is different from the previous one in the sense that the previous study's focus was to determine and ascertain effect of blended learning environment on students' academic achievement and engagement while the current study focus is to ascertain the effects of blended learning method on students' academic achievement and interest.

Abidoye (2015) carried out a study on the effect of blended learning instructional approach on secondary school students' academic achievement in geography in Akure, Ondo State, Nigeria. The study examined the effect of blended learning instructional approach on students' academic achievement in Geography. The study was guided by two research questions and two research hypotheses were tested. A pre-test post-test control group of quasi-experimental design was adopted in the study. The population of the study consisted of all SS2 Geography students' in 27 Senior Secondary Schools in Akure Town. A total of 110 senior secondary students were used in the study, sub-divided into experimental and control groups. Two instruments were used to collected data in the study: Geography student achievement test (GSAT) and Blended Learning Package (BLP). Mean, standard deviation and t-test were used for data analysis and test of hypotheses respectively. The findings of the study reveals that a blended learning instructional approach was more effective in enhancing students' achievement in geography than a conventional teaching method. The result also reveals that there was no significant difference between the academic achievement of male and female students. The study concluded that blended learning has a great age over the face to face classroom system. The study then recommended that training, seminars and workshops should be organized for the secondary school teachers on the use of blended learning instructional approach and online learning in the teaching of various subjects, especially geography. The study also recommended that schools should be equipped with adequate computer systems and internet facilities.

The previous study is similar to the present one in the sense that both studies adopted the blended learning method to measure its effect on the students' academic achievement. Differences between the two studies are that the present study used blended learning method to measure its effect on office technology and management education, while the previous study ascertained the effect of blended learning on students' academic achievement in

Geography. The previous involved secondary school students while the current involved Colleges of Education students as subjects' that is secondary and tertiary level of education.

Studies on the effects of methods on academic achievement and interest

Isukpa (2014) carried out a study on the effect of the role play method on students' academic achievement and interest in Christian religious studies in senior secondary schools in Ebonyi Central Education Zone. The purpose of the study was to determine the effect of role-play method on students' academic achievement and interest of students' in CRS, determine the effect of role-play method on students' academic achievement in CRS in Ebonyi Central Education Zone of Ebonyi State. The study was guided by six research question and seven null hypotheses were tested. The research design for the study was a quasi-experimental design. The population of the study comprised of nine thousand one hundred and eighty-five (9185) students' from 48 government co-educational secondary schools in Ebonyi Central Education Zone. Purposive sampling technique was used to select one hundred and twenty (120) students from four co-educational schools (70 students for the experimental group (31 males and 39 females) and 50 students for the control group (17 males and 33 females) for the study. Two structured instruments were used for data collection in the study: CRS Achievement Test (CRSAT) and CRS Interest Inventory (CRSII). Mean and the standard deviation was used to answer the research questions while analysis of covariance (ANCOVA) was used to test the hypotheses at an alpha level of 0.05.The findings of the study discovered that there is a significant difference in the mean achievement scores of students taught CRS using role-play method and those taught using lecture method in favour of group taught CRS using role-play method, that there is a significant difference in the mean interest scores of students taught CRS using role-play method and lecture method in favour group taught CRS using role-play method. The result equally reveals that gender had no significant effect on student's achievement in CRS and that role play instructional strategy is gender friendly.

The previous study is similar to the present in the sense that both studies adopted a teaching and learning method to measure interest and academic achievement. The difference between the two studies was that the previous study used a blended learning method inculcated technology into the teaching and learning process rather than just a role play. The study area for the present study was South-West while the previous was South-East using colleges of education and secondary institution respectively.

In a related study, Obiekwe (2008) investigated the effect of constructivist instructional approaches on students' achievement and interest in Basic Ecological concepts in Anambra State. Five research questions guided the study and five null hypotheses were tested. The study adopted a quasi-experimental design of pre and post- tests non-equivalent control group. Purposive random sampling technique was used to select from (94) schools (2 boys and 2 girls' schools) in Ogidi Education Zone of Anambra State. Out of the four schools, one male and female school was assigned as the experimental groups while the other one male and one female school were assigned as the control group. The experimental group was taught ecological concepts using constructivism instructional approach while the control group was taught using conventional (lecture) method. Biology Achievement Test on Ecological Concepts (BATEC) and Biology Interest Inventory on Ecological Concepts BIIEC) were used to collect data. The data were analyzed using means, standard deviations and ANCOVA. Results from the data on Biology Interest inventory on basic ecological concepts indicates that constructivist instructional approach was more effective in facilitating student's interest in ecological concepts more than the conventional (lecture) method. Constructivists' instructional approach is an innovative teaching method which also is an inquiry in nature. Because it encourages active learning it stimulates interest and this explains why it yielded a more positive effect on the students' interest more than the lecture method that is didactic in nature.

Okoro (2011) investigated the effects of interaction pattern on students' achievement and interest in biology among secondary school students in Enugu State. The design for the study was quasi-experimental pre-test and post-test non-equivalent group. The study involved 3 intact classes that were randomly assigned co-operative competitive and individualistic groups. The subject for the study consisted of one hundred and fifty (150) SS II Students from four schools in Obollo-Afor Educational Zone of Enugu State. The sample was selected through purposive and random sampling. Four single schools (2) male (2) female schools were purposely used. Data for the study was collected using the researcher constructed Biology Achievement Test (BAT) and Biology Interest Inventory (BII). The BAT consisted of 24-item multiple choice objective questions and BII consists of 20 items. Data from the study were analyzed using mean, standard deviations and ANCOVA statistic were used to test the null hypothesis at the 0.5 level of probability. The result from the study indicates that the three (3) interaction patterns; co-operative, competitive and individualistic patterns enhanced students' achievement and interest in biology. The two study were similar they both sought to ascertain students interest, while they are dissimilar in that the current used 2 intact, the previous used 3 intact class.

Studies on effects of computer-assisted devices on academic achievement

Bingel (2010) carried out a study on the application of computer aided instructions in the teaching of vocational and technical education in senior secondary schools in Sokoto State. The study addressed the effect of the application of computer-aided instruction in the teaching of vocational and technical education in senior secondary schools in Sokoto. Four research questions guided the study and four null hypotheses were tested. Survey research design was adopted for the study. The population comprised of all students of vocational training schools in Sokoto State. The sample of the study comprised of 210 secondary school students in Sokoto State. A structured questionnaire was used for data collection. Mean and the standard deviation were used in analyzing the researcher questions while t-test was

adopted for testing the null hypotheses. The finding of the study included that there are inadequate facilities in schools for effective application of CAI, the teachers in the schools faced computer difficulties and that the Ministry of Science and Technology Education in Sokoto had not complied fully with the National ICT policy. The study concluded that the application of computer-aided instructions in the teaching of vocational and technical education in senior secondary schools in Sokoto State had a positive effect on learning. The study recommended that there should provision of adequate computer hardware/software, internet connectivity, and alternative power supply, computer literacy for teachers through application training, workshops and seminars.

This previous study was similar to the present in that it aimed at finding out the effect of Blended learning (BL) on student academic achievement. It also aimed at ascertaining whether there was any gender difference in the outcome of the application of the BL. The formal addressed the effect of the application of Computer Aided Instruction in the teaching of vocational and technical education in Senior Secondary schools. The similarity between the two studies was that both CAI and BL depend heavily on computers for instruction and learning of which the present study assessed the situation in Colleges of Education in South-West in view of blended learning and not CAI and not a secondary school. The previous study lack substance to expatiate its opinions because of the research design adopted, adopting a survey research design is not good enough to find out the effect of a new method of teaching against the conventional or traditional teaching and learning method. Therefore, the study at hand to fill up the lacuna had adopted a quasi-experimental design which created a real-life scenario to find out the effect of blended learning on Office technology students' academic achievement.

Al-rahmil, Othman and Musa (2014) carried out a study on the improvement of students' academic performance using social media through collaborative learning in Malaysian Higher Education. The study focused on the impact of social media on academic

performance and the possibility of using them as an effective pedagogical tool to improve academic performance. Four research questions guided the study and four null hypotheses were tested. The study adopted a survey research design. The population of the study comprised students of all higher institution of learning in Malaysia. The sample of the study comprised of 120 undergraduate and postgraduate students (51 males and 69 females). The study used a structured questionnaire containing 35 items designed by the researchers for data collection. Pearson Correlation coefficient at a 99% confidence level was used to analyze the data. Findings of the study reveals that the best correlation was found between the students' satisfaction (SS) and students' academic performance (SAP) with engagement (ENG) with a correlation coefficient of 0.679. The result highlighted that students' academic performance relationship with interactivity with peers, interactivity with the teachers and the engagement, had a positive effect on improvement of students' academic performance. The finding also indicates that collaborative learning relationship with interactivity with peers, interactivity with the teacher, the engagement, perceived ease of use and perceived usefulness contributed so much in increasing students' satisfaction and students' academic performance. The interaction between students and teachers were found to be lower than interactivity with peers.

The previous study was similar to the present study in that it aimed at finding out if students' academic performance can improve by using social media of which social media is an aspect of blended learning. The difference was that the previous addressed the issue of improvement of students' academic performance by using social media while the present study addresses the effect of adopting blended learning and its effect on Office technology students' academic achievement. The previous adopted a survey research design while the present adopted a quasi-experimental research design. Some of the setbacks of the previous study include: lack of substance to report the effect of social network since the researcher did not conduct an experiment to test effect, the research instrument used was not suitable for

such a study and adopting a survey research design was not good enough to find out the effect of using social media on students' academic performance.

Tayseer, Zoghieb, Alcheikh and Awadallah (2014) conducted a study on the social network: academic and social impact on college students in petroleum institute, Abu Dhabi, United Arab Emirate. The study was delimited to the users of Facebook and twitter i.e. ascertaining how often the respondents use the social network. The main aim of the study was to address the effect of using a social network such as Facebook and twitter on student engagement in both academic and social interactions. Six research questions guided the study and four hypotheses were tested. Survey research design was adopted for the study. The population of the study comprised of all college students in petroleum institute in Abu Dhabi United Arab Emirate. The sample size of the study was limited to include only 30 freshman male students of the Petroleum Institute. The omission of the female folks in the research was due to cultural and traditional reasons. A structured questionnaire was used as the instrument for data collection. Mean and the standard deviation were used in analyzing the data collected. The findings of the study among other were that: students with high GPAs spend more time using social networks, while student with low GPAs spend less time on social media, bulk of the students does not use social sites to look for college-related information, neither do they used the site to share information about their lectures and homework and that students use social networks for social benefits than the academic.

The previous study was similar to the present study in that it aimed at finding out if there is any correlation between the respondents' academic performance and their use of social media, which was same as blended learning as carried out by the present study. The difference was that the formal addressed the effect of the using Facebook and Twitter on students' engagement in both academic and social interaction while the present study addressed the effect of adopting blended learning instructional method on Office technology students' academic achievement. The previous adopted a survey research design while the

present adopted a quasi-experimental research design. The lapses of the previous study are that the study lack substance to report the effect of social network since the researcher did not conduct a quasi-experiment to test effect, the research instrument used was not suitable for such a study and adopting a survey research design was not good enough to find out the effect of one thing against the other example using a new teaching method against the conventional or traditional teaching and learning method. Therefore the study at hand to fill up the lacuna had adopted a quasi-experimental design which created a real-life scenario to find out the effect of blended learning (lecture method with blog and Google classroom) on Office technology students' academic achievement and a well-structured achievement test instrument for data collection.

Gautam and Kaur (2015) conducted a study to investigate the effect of computer-assisted instructions on attitude towards environmental pollution of secondary school students in Amritsar district. The study explored the effect of computer-assisted instructions developed by the researchers on environmental education of secondary school students. Six research questions guided the study and five null hypotheses were tested. The study adopted experimental research design a pre-test/post-test equivalent group design. The experimental and controlled groups were matched on the basis of their 8^{th} standard final results. The population of the study comprised of secondary school students in Amritsar District. The study investigation final sample for experimentation consisted of 640 students of class IX of rural and urban areas of different government and private secondary schools. Three hundred and twenty students' were treated as a control group, while 320 students' were treated as an experimental group to be taught by computer-assisted instructions. The instrument for data collection was an attitude scale (AC) administered at pre-test and post-test stage on both controlled and experimental group and an achievement test. Mean and the standard deviation were used in answering the research questions. The study concluded on the basis of analysis and interpretation of results that the computer-assisted instructions are effective in generating

environmental awareness among secondary school students. More so the computer-assisted instructions are a technique is independent of a residential area for generating environmental awareness among secondary school students. However, they are dependent on the type of school and gender for generating environmental awareness among secondary school students.

The previous study was similar to the present study in that it examined the effect of computer-assisted instruction technique (CAI) on the attitude towards environmental pollution of secondary school students which was same with the present study using computer-assisted devices to aid learning, bothstudies adopted experiment research design in a way. The difference was that the previous examined the effect of computer-assisted instruction technique (CAI) on the attitude while the present study addressed the effect of adopting blended learning on academic achievement. Some of the setbacks in which the present study improved on include: lack of sufficient time to really apply the teaching methods, the two groups were not decentralized to avoid contact by members of the groups which must have influenced the result, that is the treatment on both the experimental and control groups should have been conducted in separate schools to avoid contact of the subjects.

All the reviewed related empirical study has a link to the present study, their lacuna created a reason to carry out the present study. The present study, therefore, had attempted to conduct the research from the point of view of blended learning using lecture method with blog and Google classroom.

Summary of Review of Literature

The literatures related to the variables under study were reviewed. The review began with the conceptual framework which covered the following concepts: blended learning, interest, academic achievement and office technology education. Blended learning in a classroom incorporates daily instruction in small or whole group lessons, and then a technology portion where students are receiving interventions, practice, or enrichment time based on their specific needs. Also, blended learning is defined as an education model which

can integrate e-learning which has improved in parallel with new and technologic development with traditional learning which provides the integration in the classroom. The term interest is used also to indicate a permanent mental disposition. Thus someone may have an interest in certain subjects, though they are not an object of his present attention. Academic achievement is seen as the product of the learning outcome after the teaching and learning process. Office technology education, on the other hand, was reviewed as training meant to prepare an individual to become an effective office manager.

Theory of multiple intelligences and distributed learning theory were reviewed. These were the theories that the present study derived its support. The multiple intelligence theory holds that our school systems which reflect our culture, teach, test and rewards primarily depends on the two kinds of intelligence – verbal and logical-mathematical. It is also of the view that students reflects how they learn and what interests them while the distributed learning theory is of the view that learning instrument can be allowed to be decentralized i.e. learning can take place without necessarily the teacher, students, and the instruction being together.

Theoretical Studies were reviewed under the following subheadings: historical development of blended learning, benefits of blended learning, and benefits of Office technology education and challenges of Office technology in the 21st Century. Literature reveals that computer-assisted learning had been in used since the 1980s and had over the years gain more ground in the academic settings. The review also reveals that Office technology education is faced with many challenges in spite of its laudable benefits.

The literature reviewed covered the application of blended learning and other teaching methods in other fields of learning and in other countries. To the best of the researcher's knowledge, the effect of blended learning on students academic achievement in office technology and management in South-West, Nigeria has not been studied hence the need for this study. This is the gap that this study had filled.

CHAPTER THREE

METHOD

This chapter discussed the method that was used in carrying out the study. It is presented under, research design, area of the study, the population of the study, sample and sampling techniques, an instrument for data collection, validation of the instrument, the reliability of the instrument, experimental procedures, administration of test instrument and method of data analysis.

Research Design

The study adopted a quasi-experimental research design. Specifically, the study applied the nonequivalent control group design. Quasi-Experimental research is similar to experimental research in that there is manipulation of an independent variable. It differs from true experimental research because either there is non-randomization. (Abraham & MacDonald, 2011). Quasi-experimental design is suitable for this study because it is not a true experimental research and creates a real-life scenario to find out the effect of blended learning (lecture method with blog and Google classroom) on Office technology students' academic achievement and interest. The study used two intact groups as subjects. Specifically, the subjects were assigned to experimental and control groups and were subjected to pre-test and post-test. The specific design was illustrated in figure 1 below.

Group	**Pre-test**	**Research Condition**	**Post-test**
Experimental Group (E)	0_1	X_1	0_2
Control Group (C)	0_1	X_2	0_2

Figure 1: Design of the Experiment

Where:

0_1 – Represents pre-test observation for the experimental and the control group

0_2 – Represents post-test observation for the experimental and the control group

X_1 – Represent the experimental group using Blended Learning Method

X_2 – Represent the Control group using Lecture Method

Area of the Study

The study was conducted in Colleges of Education in South-West Nigeria. South-West Nigeria is one of the six geopolitical zones in Nigeria. The South-West comprises Oyo State, Lagos State, Ogun State, Ondo State, Osun State and Ekiti State. The States are majorly Yoruba speaking areas (Mydnigeria, 2016). South-West Nigeria has a land mass of 76,852 square kilometers and population of over 27.72 million (National Population Commission, 2006 and National Bureau of Statistics, 2010). The South-West shares boundaries with Edo and Delta States (South-South), Kwara and Kogi States (Middle Belt). The Benin Republic borders Nigeria in the South-West (OldNaija, 2015). South-West Nigeria was chosen because there were adequate numbers of Colleges of Education (See Appendix, IX, p. 135). Also, students' academic achievement and interest in office technology and management can determine a better job opportunities in South-West and in Nigeria as a whole. None of the colleges in the zone was using blended learning method (Blog, Google classroom combined with lecture method) for academic purposes. This prompted the researcher to carry out the research in this area.

Population of the Study

The population of the study comprised 1100 NCE III Office Technology Education option students in Colleges of Education in South-West Nigeria. The NCE III students were used because it was at this level of their NCE programme in Business Education that they made choice of course option to either study accounting education or Office technology education. Also, it was in the final year that office technology and management education was

offered. The NCE III students were the final year students who had become stabilized and familiar with the higher education system, unlike their NCE I and NCE II counterparts.

Sample and Sampling Techniques

The sample for the study comprised 120 (26 males and 94 females) NCE III office technology management students in two colleges of education in South-West, Nigeria. 68 (15 male and 53 female) NCE III office technology management students', from Adeyemi College of Education, Ondo and 52 (11 male and 41 female) NCE III Office Technology and management students' from Federal College of Education (Special), Oyo. Purposive sampling technique was used as intact classes were chosen for the study. The sample from the Adeyemi College of Education, Ondo was chosen as the experimental group because of the facilities available for internet accessibility. On the other hand, the sample from Federal College of Education (Special), Oyo was chosen as the control group so as to create a basis for determining the effect of the treatment.

Instruments for Data Collection

Two instruments were used for the collection of data, namely: a structured achievement test titled Office Technology and Management Achievement Test (OTMAT) and Office Technology and Management Interest Inventory (OTMII) (See Appendices I-VI pp. 90-100). The achievement test and interest inventory were developed by the researcher. The achievement test was drawn from the lesson plan containing the lesson contents of the selected topics that were taught (See Appendices VII-VIII pp 102-117). It was made up of 50 objective test items which were awarded two marks each for a correct answer. The 50 objective test items were used in conducting pre-test and post-test on the experimental and control groups. The test items were reshuffled before being re-administered as post-test (See Appendices IV p. 96-98).

The Office Technology and Management Interest Inventory (OTMII) contained 30 questions items. The instrument was divided into two sections, A and B. Section A covered students' personal data while Section B - contained items to measure students' interest (See Appendices III pp. 94-95). Each item was structured on a four-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) weighted 4, 3, 2 and 1 respectively. The students were required to express their degrees of agreement or disagreement with each statement by a tick (✓) in the appropriate column.

Validation of the Instrument

The instruments were subjected to face and content validation. The topic of study, the purpose of the study, research questions, hypotheses, method of data analysis, lesson plan and the structured instruments were given to four experts; one each from; the Department of Technology and Vocational Education, Nnamdi Azikiwe University, Awka, Measurement and Evaluation, Adeyemi College of Education, Ondo, Ondo State, College of Education, Akwanga, Nasarawa State and the Department of Mathematics, College of Education, Akwanga, Nasarawa State. The experts were selected based on their knowledge and experience in test construction. They were given the opportunity to critique the draft instruments and to delete or modify, where necessary. The corrections made by the validators' include: Editorial on both instrument, items in the achievement test were suggested to be restructured to cover the six domains, the pre-test achievement test items were reshuffled for post-test and lesson plan was noted of having too much details. Their inputs were harmonized and taken into consideration in preparing the final copy of the instruments.

Item Analysis

Item analysis was carried out on 50 items of the achievement test instrument to ensure standardization. Item difficulty and discrimination indexes were used to determine whether an

item should be retained, modified or rejected. Items with low or negative discrimination indices are often ambiguously worded and should be examined.

Item difficulty index: This is the measure of how easy or difficult a test item appears. It is determined by the percentage of candidates that got the right answer out of the total respondents. The formula for calculating the item difficulty is:

$$P = \frac{R \times 100}{T}$$

Where

P = Item difficulty Index

T = Total number of candidates who attempted the items

R = Number of students who got the answer correctly

Discrimination Index: This is the degree to which an item discriminates between very high achievers and low achievers. Item discrimination referred to the ability of an item to differentiate among students on the basis of how well they know the material being tested. Discrimination index reflects the degree to which an item and the test as a whole is measuring a unitary ability or attribute, values of the coefficient will tend to be lower for tests measuring a wide range of content areas than for more homogeneous tests (Office of Educational Assessment, 2019).However, a negative or low discrimination index indicates that there was a problem with the distractors or the stem of the question item (See Appendix XIV, 142).

Final Selection of items

In the final selection of the items for the OTMAT instrument, the following conditions were considered:

1. Any item with a difficulty index below 0.30 or with a very high difficulty index of 0.70 and above were modified. The stem was modified or options of the items were reshuffled.
2. Any item with a low or negative discriminatory index was modified. The distractors stems were modified. The same was applied to items with low positive discrimination indexes.

After validation and standardization the 50 questions achievement test, from the item analysis 34 items were retained as they were while 16 items were modified (See Appendix XIV, 170).

Reliability of the Instrument

The instrument was administered on 18 randomly selected Office Technology Education students in College of Education, Akwanga, Nasarawa State which is outside the study area. The students were made to attempt Office Technology Education Students' Achievement Test (OTMAT) in approximately 40 minutes. Kuder-Richardson (KR-20)was used to determine the internal consistency of the items of OTMAT. The test reveals a reliability coefficient of 0.85 (See Appendix XIV p. 142). This shows that the instruments were reliable. In line with the assertion of Office of Educational Assessment (2019) opined that a reliability coefficient of 0.7 and above is acceptable as reliability value.

The reliability of Office Technology and Management Interest Inventory (OTMII) was tested using Cronbach Alpha to determine the internal consistency of the instrument. The reliability coefficient obtained was 0.90 which also indicates that the instrument was very reliable (See Appendix XV p. 147). This was in agreement with Office of Educational Assessment that asserted that 0.7 and above is acceptable reliability value.

Experimental Procedure

The experiment lasted for six weeks. The schedule of the experiment was as follows:

Week	Activities
1	Sensitization and pre-test administration (OTMAT/OTMII)
2	The teaching of topic 1 to both experimental and control groups
3	The teaching of topic 2 to both experimental and control groups
4	The teaching of topic 3 to both experimental and control groups
5	The teaching of topic 4 to both experimental and control groups
6	Post-test administration (OTMAT/OTMII)

Figure 2 Experimental Duration

Step 1: Briefing of Research Assistant (Control Group Course Lecturer)

The course lecturer was chosen as the research assistant for the control group. The researcher held discussions with the research assistant on what the study aims to achieve and the manner for carrying out the study with emphasis on the administration of the test instruments and the implementation of the lesson plan prepared for the study.

Step 2: Administration of Pre-test

The experimental and the control groups were pre-tested immediately after the sensitization using Office Technology and Management Achievement Test (OTMAT) and the Office Technology and Management Interest Inventory (OTMII) (See Appendices I-III pp. 90-94). This was done in order to determine the entry academic achievement and interest levels of the subjects.

Step 3: Treatment Packages

(a) Sensitization of the Experimental Group Participants on the use of a blended learning (blog and Google classroom) for teaching

The researcher during the first meeting with the participants in the experimental group introduced the course selected for the study and sensitized them on the new approach (blended learning method) that was used for teaching and learning. The researcher provided an overview of blended learning (blog and Google classroom) and explained how it works and the modality for using it for teaching and learning of the course (See Appendix XVII p. 149). The researcher made them understand that:

(i) They were allowed to use their mobile device, computers or laptops in the learning of the course since wireless network was available.

(ii) For those who did not have the mobile phone they were asked to use internet networked computers in the management and information unit (MIS) of the college.

(iii) The researcher instructed them on the course contents once a week.

(iv) They were also free to make comments and ask questions on course content aspects that they did not understand and could as well contribute related information on the course at least once a week.

(v) They could share course-related articles, course contents, seek advice and support that bother on their coursework from their lecturer and peers.

(vi) Their privacy was protected in order to assure them of the security for their postings.

b) Setting up a Blog and Google Classroom

After the contact in the first class, the researcher created a dedicated blog, and Google classroom titled 'RESEARCH INSTRUMENT'. The blogs and Google classroom was the platform where the researcher and the experimental group members interacted. The blogs and Google classroom was created with the following attributes:

(i) The researcher was the blog and classroom administrator and had access to the Google classroom and had the exclusive right to approve members.

(ii) The researcher (group administrator) functioned as a facilitator in using the blog and Google classroom to support teaching and learning.

(iii) Only group members were allowed to contribute to existing content.

(iv) Only members were able to have access to the Google classroom and the blogs, its member's comments and posts.

(c) Enrolment of Participants in the Google classroom

The administrator collected emails of the participants of the Blended learning instructional method (lecture method with blog and Google classroom) group for teaching and learning. This was used to enroll them as members of the experimental group on the Google classroom platform and enable them to have access to the blogs for the teaching and learning exercise. The administrator alternatively generated an entry code to the Google classroom platform with which every participant used as a login code into the classroom.

(d) Posting of information about the course

The facilitator posted information about the course and invited participants to read and contribute to the topic posted. They were requested to make comments and ask questions in order to ensure active participation in the blogging and Google classroom platform.

(e) Teaching of Lessons

The facilitator was in contact with the experimental group via the dedicated blog and Google classroom for four weeks during second semester. The course was BES 327 – Office Technology and Management Education. The blog and Google classroom was used to pass instructions to the participants (lesson notes prepared for each topic per week) in the following sessions (See Appendices VII-VIII pp. 102-132).

Session 1: In this session, the first lesson topic (The secretary: Training, qualification, personal qualities, business attributes and functions) was taught in class using lecture method for the first one hour and the complete content of the first lesson was then blogged and posted on the Google classroom for further discussions. The participants were expected to actively participate through comments and questions both on the platform and in the classroom. The facilitator equally asked the participants questions to ensure active participation and understanding of the lesson. The control group facilitator used the lecture method only to teach the same topic. The teacher introduced the topic to be learned with or without writing it on the board. The teacher then presented other details expected to be learned in the topic and clarified difficult areas for the students'. The students listened and asked questions where necessary.

Session 2: The second lesson topic (Receptionist: Duties, types of callers, screening callers and handling receiving of visitors) was taught in class using lecture method for the first one hour and the complete content of the second lesson was then blogged and posted on the Google classroom for further discussions. The participants were expected to actively participate through comments and questions both on the platform and in the classroom. The

facilitator equally asked the participants questions to ensure active participation and understanding of the lesson. The control group facilitator used the lecture method only to teach the same topic. The teacher introduced the topic to be learned with or without writing it on the board. The teacher then presented other details expected to be learned in the topic and clarified difficult areas for the students'. The students listened and asked questions where necessary.

Session 3: The third lesson topic (Secretary's duties before, during and after meetings and procedures/terms used in a meeting) was taught in class using lecture method for the first one hour and the complete content of the third lesson was then blogged and posted on the Google classroom for further discussions. The participants were expected to actively participate through comments and questions both on the platform and in the classroom. The facilitator equally asked the participants questions to ensure active participation and understanding of the lesson. The control group facilitator used the lecture method only to teach the same topic. The teacher introduced the topic to be learned with or without writing it on the board. The teacher then presented other details expected to be learned in the topic and clarified difficult areas for the students'. The students listened and asked questions where necessary.

Session 4: The fourth lesson topic (Human relations: Relationship with boss and colleagues - Superior and Subordinate staff) were taught in class using lecture method for the first one hour and the complete content of the fourth lesson was then blogged and posted on the Google classroom for further discussions. The participants were expected to actively participate through comments and questions both on the platform and in the classroom. The facilitator equally asks the participants questions to ensure active participation and understanding of the lesson. The control group facilitator used the lecture method only to teach the same topic. The teacher introduced the topic to be learned with or without writing it on the board. The teacher then presented other details expected to be learned in the topic and clarified difficult areas for the students'. The students' listened and asked questions where necessary.

Step 4: Administration of Post-Test

The experimental and the control groups were post-tested after the treatments by the researcher and the research assistant using Office Technology and Management Achievement Test (OTMAT) and Office Technology and Management Interest Inventory (OTMII). The test questions were shuffled for the two groups before being re-administered (See Appendices IV pp. 96-98). The scores of the subjects in the post-test were compared with their scores in the pre-test so as to determine the effect of the treatments on Office Technology Students' academic achievement and interest.

Control of Extraneous Variables

Extraneous variables are the factors that could influence the findings of the study. These variables could pose serious threats to the internal validity of an experimental design if not controlled. The extraneous variables that might contaminate the study was controlled as discussed below:

Experimental Attrition

The researcher was aware that attrition might likely occur as a result of prolongation of the experiment, boredom, lack of motivation (internet bundle to access internet site) and so on. The experiment was made to last for two hours per week for the duration of four weeks. Both groups participated in two hours of coursework of learning activities to discuss course content that was covered using lecture method in the classroom. The difference between the two groups was that the experimental group's learning activities was mediated by the blog and Google classroom activities. The researcher also monitored the participants by requesting them to post comments and/or ask questions on a content that was posted on the Google classroom platform in order to ensure active participation. Each participant's commented and/or asked questions were where necessary. This ensured active participation.

Experimental Expectancy Effects

The course lecturer in charge of the control group was assigned to teach the participants in the group. The researcher monitored the course lecturer to ensure standard teaching protocol to ensure consistency in the presentation of the course. To also control experimental bias the researcher was involved in the teaching of the experimental group. The researcher also ensured that the control group lessons were taught within the normal two-hour contact per week as scheduled on the school timetable for a period of four weeks.

The experimental group, the researcher used the blog and Google classroom and face-to-face contact with the group members for instructional mode and to ensure active participative, student-focused and collaborative approach to teach the participants using the dedicated blog and Google classroom for a period of four weeks. The participants were instructed for a period of two hours per week (lecture method with blog and Google classroom) during the period scheduled for their lecture on the school timetable. The researcher then ensured that the procedures outlined for the experiment are strictly followed.

Experimenter Bias

Nature and techniques the researcher used in the presentation of the treatments to the participants might bring about bias on the researcher's part and this would affect the result of the study. To control this, the researcher strictly, ensured adherence to the treatment package designed for each of the groups. The researcher prepared lesson plans for the experimental group (See Appendix VII pp. 102-116) and the control group (See Appendix VIII pp.117-132) which were used for teaching each of the groups. The researcher guided the course lecturer of the control group on how to properly implement the lesson plan and the test instrument.

Novelty Effect

The participants in each of the two groups were already familiar with the researcher and the research assistant as their respective course instructors. The researcher explained the

nature of the study to the experimental group, informed them on what they stood to gain and emphasized confidentiality among the participants throughout the treatment sessions. These eliminated the novelty effect on the study.

Administration of the Test Instrument

The Office Technology and Management Achievement Test (OTMAT) and Office Technology and Management Interest Inventory (OTMII) were administered on the two groups before treatment (pre-test) in order to obtain the pre-test scores. The groups were concurrently treated in their separate colleges to avoid subject interaction. At the end of the treatment, the same instrument (OTMAT) was reshuffled and re-administered alongside with the Office Technology and Management Interest Inventory on the experimental and the control group at post-test.

Method of Data Analysis

The Statistical Package for Social Science (SPSS) version 23 was used to analyze the pre-test and post-test data collected for the study. The data collected were subjected to descriptive statistics of mean and standard deviation and inferential statistics of analysis of covariance (ANCOVA).The difference between the means of the pre-test and post-test for both groups was used to determine the gain in mean while gain in mean difference was the difference between the gains in mean score. A gain in mean score means that there was a positive effect after the treatment while on the other hand; a mean loss meant that there was negative effect. To test the hypotheses, Analysis of Covariance (ANCOVA) was used. A null hypotheses was retained (not rejected) if calculated p-value was less than the level of significance (i.e. p-value < 0.05 = retained null hypothesis) and rejected if the p-value is greater than the level of significance (i.e. p-value > 0.05 = rejected null hypothesis).

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter contains the presentation of results of data analysis based on the data collected. The results are presented in line with the six research questions and six null hypotheses tested. The results are presented in tables.

Research Question 1

What are the pre-test and post-test mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method?

Table 1

Gain in Mean Academic Achievement Scores of Students Taught Office Technology and Management Education using Blended Learning and Lecture Method

Method	N	Pre-test Mean	Std. Deviation	Post-test Mean	Std. Deviation	Gain in Mean
Blended Learning	68	49.53	10.81	68.81	13.47	19.28
Lecture Method	52	46.27	11.08	57.33	8.25	11.06

Data on students' mean academic achievement in Table 1 reveals pre-test mean score of 49.53 and post-test mean score of 68.81 of students taught office technology and management education using blended learning. The comparison of the pre-test mean score and the post-test mean score reveals gain in mean of 19.28 after treatment. This indicates that blended learning has a positive effect on the performance of students in office technology and management education. The Table also reveals pre-test academic achievement means score of 46.27 and post-test mean score of 57.33 of students taught office technology and management education using lecture method. The comparison of the pre-test mean score and the post-test mean score reveals gain in mean of 11.06 after treatment. This indicates that lecture method has an effect on the performance of students in office technology and management education.

Research Question 2

What is the difference in the mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method?

Table 2

Gain in Mean Difference of Students Taught Office Technology and Management Education using Blended Learning Method and Lecture Method

Method	N	Gain in Mean	Difference in Gain in Mean
Blended Learning	68	19.28 (68.81-49.53)	8.22 (19.28-11.06)
Lecture Method	52	11.06 (57.33-4.27)	

Data in Table 2 indicates that students taught office technology and management education using blended learning had academic achievement gain in mean of 19.28 while the students taught with lecture method had academic achievement gain in mean of 11.06. The gain in mean difference therefore was 8.22. This reveals that students taught office technology and management education using blended learning performed better than their counterparts students taught using the lecture method since a gain in mean of 19.28 was greater than 11.06. This indicates that blended learning method has higher positive effect on students' academic achievement in office technology and management education compared to the lecture method.

Research Question 3

What are the differences in the mean academic achievement scores of male and female students taught office technology and management education using blended learning method?

Table 3

Difference in Mean Academic Achievement Score between Male and Female Students' Taught Office Technology and Management using Blended Learning Method

Gender	N	Pretest Mean	Std. Deviation	Gain in Mean	Posttest Mean	Std. Deviation	Gain in Mean
Male	15	46.73	12.15	3.59	68.20	9.01	0.78
Female	53	50.32	10.39		68.98	14.55	

Data in Table 3 reveals academic achievement gain in mean scores of 3.59 and 0.78 respectively for pretest and posttest scores of students taught office technology and management education using blended learning. The result indicates that in both pre-test and post-test scores female students performed better than their male counterparts in the experimental group. The conclusion is that there is difference in mean score as far as gender is concerned.

Research Question 4

What are the pre-test and post-test mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method?

Table 4

Gain in Mean Interest Scores of Students Taught Office Technology and Management Education using Blended Learning Method and Lecture Method

Method	N	Pre-test Mean	Std. Deviation	Post-test Mean	Std. Deviation	Gain in Mean
Blended Learning	68	85.16	8.66	89.91	7.96	4.75
Lecture Method	52	85.78	7.81	88.77	8.80	2.99

Data on students' interest inventory in Table 4 reveals mean interest score pre-test of 85.16 and post-test mean interest score of 89.91 of students taught office technology and management education using blended learning. The comparison of the pre-test interest mean score and the pre-test interest mean score reveals difference in mean of 4.75 after treatment. This indicates that blended learning has a positive effect on the interest of students in office technology and management education. Tables 4 also reveals mean interest score before treatment of 85.78 and after treatment mean interest score of 88.77 of students taught office technology and management education using lecture method. The comparison of the before treatment mean interest score and the after treatment mean interest score reveals difference

in mean of 2.99 after treatment. This indicates that both methods had effect on the interest of students' in office technology and management education.

Research Question 5

What are the differences in the mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method?

Table 5

Gain in Mean Difference of Students Interest Taught Office Technology and Management Education using Blended Learning Method and Lecture Method

Method	N	Gain in Mean	Difference in Gain in Mean
Blended Learning	68	4.75 (89.91-85.16)	1.76
Lecture Method	52	2.99 (88.77-85.78)	

Data in Table 5 reveals that students taught office technology and management education using blended learning had academic achievement gain in mean of 4.75 while the students taught with lecture method had academic achievement gain in mean of 2.99. The mean gain difference therefore is 1.76 (4.75-2.99). This indicates that students taught office technology and management education using blended learning had a better interest improvement than their counterparts' students taught using the lecture method since a mean difference of 4.75 (blended learning) is greater that 2.99 (lecture method). This indicates that blended learning method has more positive effect on students' interest in office technology and management education compared to the lecture method.

Research Question 6

What are the differences in the mean interest scores of male and female students taught office technology and management education using blended learning method?

Table 6

Difference Gain in Mean Interest Scores between Male and Female Students' Taught Office Technology and Management Education using Blended Learning Method

Gender	N	Pretest Mean	Std. Deviation	Difference in Mean	Posttest Mean	Std. Deviation	Difference in Mean
Male	15	83.67	8.05	1.91	90.67	6.40	0.97
Female	53	85.58	8.85		89.70	8.39	

Data in Table 6 reveals interest mean difference scores of 1.91 and 0.97 respectively for pretest and posttest scores of students taught office technology and management education using blended learning. The result indicates that interest mean score before treatment of the female students was better than their male counterparts while the interest mean score after treatment of 0.97 was in favour of the male students of the experimental group. The conclusion is that there is a slightly gender difference gain in mean score in favour of the female students at the pre-interest and the male's interest were better influence by the blended learning method after treatment.

Hypothesis 1

There is no significant difference between the mean academic achievement scores of students taught office technology and management education using blended learning method and those taught using lecture method.

Table 7

ANCOVA Result Showing the Significance of Difference of Method (Treatment) on Achievement Scores of Students in Office Technology and Management Education

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	11282.801[a]	4	2820.700	39.463	.000	
Intercept	4408.471	1	4408.471	61.677	.000	
Achievement_PRE	7390.916	1	7390.916	103.403	.000	
Treatment	2103.774	1	2103.774	29.433	.000	S
GENDER	1.278	1	1.278	.018	.894	
Treatment * GENDER	85.828	1	85.828	1.201	.275	
Error	8219.866	115	71.477			
Total	508466.000	120				
Corrected Total	19502.667	119				

Data in Table 7 shows that there was significant difference in the academic achievement mean score of students' taught office technology and management education using both methods with P-value 0.000, since the p-value is less than the level of significance 0.05, the null hypothesis was therefore was rejected. The result indicates that there is significance difference in the mean academic achievement score of students taught office technology and management education using blended learning method and those taught using lecture method (See Appendix XIII (Pairwise comparisons), pp. 139-140).

A multiple comparisons analysis was computed to provide some indications of the academic achievements of both the experimental and the control groups, as shown in Table 8.

Table 8

Multiple Comparisons Analysis Showing the Significance of Difference of Method on Students Academic Achievement in Office Technology and Management Education

Variables	Comparisons	Mean Diff (I-J)	Std. Error	P.	Decision
PRE-TEST BLM	Pre-Test Lecture Method	3.260	2.067	.479	NS
	Post-Test Blended Learning	-19.279*	1.924	.000	S
	Post-Test Lecture Method	-7.798*	2.067	.003	S
PRE-TEST LM	Pre-Test Blended Learning	-3.260	2.067	.479	NS
	Post-Test Blended Learning	-22.540*	2.067	.000	S
	Post-Test Lecture Method	-11.058*	2.200	.000	S
POST-TEST BLM	Pre-Test Blended Learning	19.279*	1.924	.000	S
	Pre-Test Lecture Method	22.540*	2.067	.000	S
	Post-Test Lecture Method	11.482*	2.067	.000	S
POST-TEST LM	Pre-Test Blended Learning	7.798*	2.067	.003	S
	Pre-Test Lecture Method	11.058*	2.200	.000	S
	Post-Test Blended Learning	-11.482*	2.067	.000	S

Data in Table 8 shows that the students taught office technology and management education using blended learning method had significant difference compared to the academic achievement of students taught with lecture method, since the P-value 0.000 in the post-test BLM against post-test LM and post-test LM against post-test BLM are less than the significance level of 0.05. The observed difference in the p-value reflecting the significant difference in the academic achievement mean score in both the pre-test and post-test portrays

the potency of the treatment employed at producing better academic achievement of students taught office technology and management education.

Hypothesis 2

There is no significant difference between the mean academic achievement scores of male and female students taught office technology and management education using blended learning method.

Table 9

ANCOVA Result Showing Significance of Difference of Gender on Academic Achievement Scores of Students

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	11282.801[a]	4	2820.700	39.463	.000	
Intercept	4408.471	1	4408.471	61.677	.000	
Achievement_PRE	7390.916	1	7390.916	103.403	.000	
Treatment	2103.774	1	2103.774	29.433	.000	
GENDER	1.278	1	1.278	.018	.894	NS
Treatment * GENDER	85.828	1	85.828	1.201	.275	
Error	8219.866	115	71.477			
Total	508466.000	120				
Corrected Total	19502.667	119				

Data in Table 9 shows that P-value is 0.894. Since the p-value is greater than the level of significance at 0.05, the null hypothesis is therefore accepted. The result reveals that there is no significant difference between the academic achievement scores of male and female students taught office technology and management education using blended learning (See Appendix XIII (Pairwise comparisons), p. 139).

Hypothesis 3

There is no significant interaction effect of method and gender on the academic achievement of the students taught office technology and management education.

Table 10

ANCOVA Results Showing the Interaction Effect of Method (Treatment) and Gender on Students' Achievement in Office Technology and Management Education

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	11282.801[a]	4	2820.700	39.463	.000	
Intercept	4408.471	1	4408.471	61.677	.000	
Achievement_PRE	7390.916	1	7390.916	103.403	.000	
Treatment	2103.774	1	2103.774	29.433	.000	
GENDER	1.278	1	1.278	.018	.894	
Treatment * GENDER	85.828	1	85.828	1.201	.275	NS
Error	8219.866	115	71.477			
Total	508466.000	120				
Corrected Total	19502.667	119				

Data in Table 10 shows that at 0.05 level of significance the P-value is 0.275, since the p-value is greater than the level of significance 0.05, the null hypothesis is therefore accepted. This reveals that there is significant interaction effect of treatments and gender on the academic achievement of the students' in office technology and management education.

Hypothesis 4

There is no significant difference between the mean interest scores of students taught office technology and management education using blended learning method and those taught using lecture method.

Table 11

ANCOVA Result Showing the Significance of Difference of Method (Treatment) on Mean Interest Score of Students in Office Technology and Management Education

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	863.337[a]	4	215.834	3.550	.009	
Intercept	6236.236	1	6236.236	102.573	.000	
Interest_PRE	138.078	1	138.078	2.271	.135	
GENDER	96.958	1	96.958	1.595	.209	
Treatment	221.656	1	221.656	3.646	.059	NS
Treatment * GENDER	75.182	1	75.182	1.237	.268	
Error	6991.788	115	60.798			
Total	939777.000	120				
Corrected Total	7855.125	119				

Data in Table 11 shows that there is a no significant mean effect for mode of instruction on students' interest in office technology and management education with P-value at 0.059, since the P-value (sig.) is greater than the level of significance 0.05, the null hypothesis therefore was accepted. The result indicates that there was no significance difference in the mean interest score before and after treatment of students taught office technology and management education using blended learning method and those taught using lecture method. This implied that interest of both the experimental and control group in office technology and management education is significantly not the same (See Appendix XIII (Pairwise comparisons), pp. 139-140).

Hypothesis 5

There is no significant difference between the mean interest scores of male and female students taught office technology and management education using blended learning method.

Table 12

ANCOVA Result Showing Significance of Difference of Gender on Interest Mean Scores of Students

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	863.337[a]	4	215.834	3.550	.009	
Intercept	6236.236	1	6236.236	102.573	.000	
Interest_PRE	138.078	1	138.078	2.271	.135	
GENDER	96.958	1	96.958	1.595	.209	NS
Treatment	221.656	1	221.656	3.646	.059	
Treatment*GENDER	75.182	1	75.182	1.237	.268	
Error	6991.788	115	60.798			
Total	939777.000	120				
Corrected Total	7855.125	119				

Data in Table 12 shows that P-value is 0.209. Since the p-value is greater than the level of significance at 0.05, the null hypothesis is therefore accepted. The result reveals that there is no significant difference between the interest of male and female students in office technology and management education (See Appendix XIII, (Pairwise comparisons), p. 140).

Hypothesis 6

There is no significant interaction effect of methods and gender on the interest of the students taught office technology and management education.

Table 13

ANCOVA Results Showing the Interaction Effect of Method (Treatment) and Gender on Students' Interest in Office Technology and Management Education

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	863.337[a]	4	215.834	3.550	.009	
Intercept	6236.236	1	6236.236	102.573	.000	
Interest_PRE	138.078	1	138.078	2.271	.135	
GENDER	96.958	1	96.958	1.595	.209	
Treatment	221.656	1	221.656	3.646	.059	
Treatment*GENDER	75.182	1	75.182	1.237	.268	NS
Error	6991.788	115	60.798			
Total	939777.000	120				
Corrected Total	7855.125	119				

Data in Table 13 shows that at 0.05 level of significance the P-value is 0.268. Since the p-value is greater than the level of significance 0.05, the null hypothesis is therefore accepted. This reveals that there is no significant interaction effect of treatments and gender on the interest in office technology and management education.

Summary of Findings

The findings of the study from the data collected and analyzed are as follows:

1. Students taught office technology and management education using blended learning method had higher academic achievement mean scores than their counterparts taught using the lecture method.
2. There is a significant difference between the academic achievement mean scores of students taught office technology and management education using blended learning method and those taught using lecture method.

3. Female students taught office technology and management education using blended learning method had higher academic achievement mean scores than their male counterparts.
4. There is no significant difference in the academic achievement mean scores of male and female students taught office technology and management education using blended learning method.
5. There is no significant interaction effect of gender and method on students' academic achievement scores in office technology and management education.
6. Students taught office technology and management education using blended learning method had higher interest mean score than their counterparts taught office technology and management education using the lecture method.
7. There is a no significant difference between the interest mean scores of students taught office technology and management education using blended learning method and those taught using lecture method.
8. Male students taught office technology and management education using blended learning had higher interest mean scores than their female counterparts taught office technology and management education using blended learning.
9. There is no significant difference in the interest mean scores of male and female students taught office technology and management education using blended learning method.
10. Blended learning has more positive effect on academic achievement of students taught office technology and management education compared to those taught using lecture method.
11. Blended learning has more positive effect on interest of students taught office technology and management education compared to those taught using lecture method.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

In this chapter, discussion, conclusion, educational implications, recommendations, and suggestions for further research were presented.

Discussion of Findings

The findings are discussed under the following:

Effect of Blended Learning and Lecture Methods on Students' Mean Achievement scores in office technology and management education

The blended learning method of teaching was better than the lecture method in facilitating student's academic achievement in office technology and management education in Colleges of Education in South-West, Nigeria. The differences in performance might have been because of the fact that the students have direct and continuous access to the learning material which had enabled them to go over and over again, both synchronously and asynchronously, thereby imbibing the required content of office technology and management education which enabled the blended learning subjects to perform better than their counterparts taught office technology and management education using lecture method. This assertion is in line with Poon (2013) who reported that blended learning motivates students to learn on their own at their own pace and in their own time. Ukamaka (2014) also opined that blended learning is a computer-mediated instructional strategy that leverages on technology and focuses on the student-teacher relationship to enhance independence, engagement, and achievement. The blended learning method may have recorded more effect because the instructions were characterized by active student's involvement, online activities and electronic access to the learning material, thereby capturing the interest of the students and maximizing comprehension of the subject matter.

Rodriguez (2011) stated that the use of social media technology in teaching and learning process has moved discussions and interactions that were once private and situated in

the classroom to a more open space where others can contribute. Also Mbah and Onwuzo (2010) reveals that teachers must adopt modern teaching strategies or techniques that will foster effective communication and interaction with students. Students benefit from interactive exercises and they can redo the exercises as many times as they like until they are satisfied with the results. The findings of this study are in line with that of Acelajado (2011) who noted that blended learning has an impact on the teaching of mathematics. Acelajado's study concluded that the blended learning approach was more effective than traditional face to face learning approach. Saritepeci and Yildiz (2014) also reveals that blended learning has a positive effect on the active participation of students in courses and development of students' motivation and interest towards the course. Their finding reveals that the student taught through blended learning method performed significantly better than those taught through other conventional methods.

Effect of Blended Learning and Lecture Methods on Students' Mean Interest Scores in office technology and management education

Results obtained from the study shows that students taught with blended learning method had high interest mean scores in office technology and management education than their counterparts that were taught with lecture method. The finding is in agreement with Saritepeci and Yildiz (2014) which reveals in their study that blended learning has a positive effect on the active participation of students in courses and development of students' motivation and interest towards the course.

The Google classroom created an interaction platform, receiving and sharing blog consciously or unconsciously initiates collaboration among the students which must have affected their interest and moreover since it involved the use of their electronic devices traditionally used for social interaction. Using their phone (electronic device) as a direct learning instrument for office technology and management education must have affected the interest of those taught using blended learning. Okoro (2011) in his study found out that

student's interaction pattern promotes student's interest in biology than the conventional instructional approach. Students perform better when they work in groups, they share ideas. This also in agreement with Ukamaka, (2014) who opined that direct interest increases the strength of ego-involvement of the learner and does not allow learners to be distracted by trivial extraneous events in the perceptual environment. The study reveals that those taught using blended learning had a higher interest than those taught using lecture method, and the tested null hypothesis also indicates that the difference is not significant.

Effect of Gender on Academic Achievement Mean Scores of Students Taught Office Technology and Management Education Using Blended Learning and Lecture Method

The result of the study shows that female students taught using blended learning methods before treatment performed better than their male counterparts in office technology and management education. This is in agreement with Ukwueze (2010) who was of the opinion that the instructional method used in the classroom may influence gender and students' academic achievements. This is in line with Okoro (2011) whose study reveals that co-operative learning strategy favour females more than males while competitive or individualized learning favour males more than females.

Notwithstanding, female students taught using blended learning before and after treatment had higher academic achievement than their male counterparts in office technology and management education, though the overall significance as reveals in the hypothesis test indicates that the difference was not significant, maybe because the difference in the mean is relatively small. This finding is in agreement with Bertea (2009) who opined that e-learning embraces the active participation of male and female students. Askar, Altun and Ilgaz (2008); Adas and Abu-Samais (2011) also found a significant difference between male and female students exposed to blended learning in their study. Similarly, Mahmoud, Ahmed and Mirna (2012) reported that there is a significant difference between males and females students who experience blended learning courses. Nzewi (2010) reveals that females achieve as high as

their male counterparts when given equal opportunities. Although Okoro (2011) stressed that male students are more active in exploring the new technology more than the females who tend to be seldom on a general note. This finding concord with the adage that what a man can do, a woman can do it even better.

Effect of Gender on Mean Interest Scores of Students Taught Office Technology and Management Education Using Blended Learning

The result of the study reveals that male students taught using blended learning had higher mean interest score in office technology and management education than their female counterparts. The finding is in line with that finding of Obiekwe (2008) that male student had higher mean interest score in biology than their female counterparts. The gender difference in student's interest could be as a result of the steps involved during the treatment process, given that male students had higher interest than their female counterparts, it could be traced to the fact that male students have positive attitude in adopting new and complex approach. Hornby (2010) posited that interest is a quality that somebody has when it makes them want to know more about something.

The revised was the case for those taught using lecture method, the female students' both before and after treatment had higher interest mean score than their male counterparts. This in line with Okoro (2011) opined that teaching and learning process, interest stands out as an important determinant of success and that students' success in any subject is influenced in one way or the other by their interest in the subject. This finding is reveals that the female students are comfortable with the old method and that gender was a significant factor in maintaining student's interest in office technology courses in colleges of education.

Interaction Effect of Teaching Method and Gender on Students' Means Achievement and Interest Scores in Office Technology and Management Education

Result of test of interactions indicates that there is no significant interaction effect between method and gender on students' achievement in office technology and management education. Blended learning method was superior to the lecture method of instruction on

students' achievement in office technology and management education. However, the blended learning method proved to be most effective than that the lecture method. The students participated more actively in instructions based on blended learning method of instruction and performed best in the post-test.

Therefore, the interaction of mode of instruction and gender represents a case of ordinal interaction in which the regression lines do not cross each other indicating the superiority of the blended learning method over the lecture method. This is in line with Nzewi, (2010) who stressed that gender is one of the variables that have been related to differences found in interest and academic achievement. Ibe in Ukamaka (2014) found no significant interaction effect between gender and treatment. In addition, Okwor in Ukamaka also found no interaction effect of gender and instructional treatment. In line with the finding of this study, Baser in Ukamaka (2014) reported a significant interaction effect between gender and instructional treatment (cognitive conflict strategy) on students' conceptual change in physics using cognitive conflict instructional model. This shows that instructional method is not gender biased

However, the results of the interaction effect of teaching method and gender on students' in office technology and management education indicates no significant interaction effect between method (treatment) and gender on student's mean interest scores in office technology and management education. This finding is contrary to the findings of Ukamaka (2014) reveals a significant interaction effect of gender and method on students mean interest scores in basic science. The male students taught using blended learning had higher interest scores after treatment than the female students, but the revise was the case of those students' taught using lecture method. The differences in the mean scores however were not significant at 0.05 level of confidence. This is an indication that both male and female students show interest in basic science irrespective of the method used for teaching. This finding may be

attributed to the fact that office technology and management education is a core course in office technology and management (OTM) programme.

Conclusion

Based on the findings of the study, it was concluded that blended learning method has a more positive effect on office technology and management students' achievement and interest in office technology and management education than lecture method. It was also concluded that students' gender did not significantly affect their academic achievement and interest in office technology and management education whether they were taught with either blended learning method or lecture method.

Implications of the Study

The findings of this study have implications for education particularly in teaching office technology and management education in colleges of education. The implications of this study border on development of more virile instructional approach for teaching office technology and management (OTM) courses. The study reveals that blended learning method was better than lecture method. These results imply that the current instructional approach used in teaching office technology and management education might have been partly responsible for student's poor performance and poor interest of students in office technology and management education.

The findings of this study equally implied that the OTM educators (lecturers) should endeavour to use innovative student-centered instructional method like the blended learning pedagogy other than conventional teaching methods since the latter is not students centered and cannot enhance student's achievement. Also, the finding of the study shows that male and female students exist in separate conceptual world. Hence, OTM educators (lecturers) should consider the gender of their students when teaching. The authors and publisher of OTM books should ensure that they incorporate online steps to access the content of learning in their books. This will trigger and sustain students' interest to use their electronic device beyond

social interactions which in turn improve their achievement and interest in OTM courses. The findings of this study implied that planners of curriculum should include blended learning method of teaching in future curriculum designing and redesigning.

Recommendations

Based on the findings of this study, the following recommendations are made.

1. Students' irrespective of their gender should show more interest towards the use of the online or blended learning method for their learning.
2. Parent should support their wards by providing facilities needed to stay connected online with their lecturers and classmates in order to enable their wards to fully participate in the online class.
3. OTM Educator should create an online classroom for every course they are teaching using Google for students' and encourage their participation, so as to reduce over use of the new technology for only social interaction.
4. College managements should provide opportunities for seminars/workshops for their teaching staffs and students on the use of blended learning so as to equip them with skills needed.
5. College Management should provide constant internet access that will cover a wide range of space, to give free access to wireless network for both staff and students to use within the school.
6. Ministries of Education should ensure that textbook authors incorporate blended learning steps in accessing learning contents online for Colleges of Education.
7. Ministry of Education should ensure that their teachers are trained regularly on the use of innovative instructional approaches for example blended learning method using different online packages like FACEBOOK, WHATSAP, Google classroom, blog.

8. The curriculum planners should ensure that they incorporate blended learning methods in OTM curriculum, as it will help to promote students' achievement and interest in the courses. This can be achieved by reviewing the curriculum to stand the test of time.

Suggestions for Further Research

The following topics are suggested for further research.

1. The duration of the study can be increased to probably cover all course content of the office technology and management education.
2. The study can be replicated adopting holistic online presence.
3. The study can be done using other courses in OTM discipline like Word processing, secretarial duties and office management.
4. The study can also be replicated with other options in business education. For example the topic could read effect of blended learning on students' academic achievement and interest in taxation in South-West Nigeria.

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APPENDICES

APPENDIX I

PRE-TEST

OFFICE TECHNOLOGY AND MANAGEMENT ACHIEVEMENT TEST

Institution:_____Matric. No:_____ Sex:_____

BES 327 - OFFICE TECH. AND MANAGEMENT EDUCATION Time Allowed: 40 Minutes

1. A Secretary is not trained to become one of the following:
   (A) Receptionist (B) Administrative officer (C) Messenger (D) Computer operator
2. The Duties of a receptionist revolve around all of the following except
   (A) Welcoming and attending to enquiries of visitors (B) Handling messages
   (C) Maintaining an appointment book (D) Process and ensure execution of the capital project
3. Which of these is NOT a personal quality of a secretary (A) Trustworthiness (B) Loyalty
   (C) Polite (D) Good correspondence
4. This caller is seriously angry with your company and shows it throughout the call.
   (A) The Flirt (B) The Lonely One (C) The Screamer (D) The Whiner
5. The act or process of coming together of some people appointed, selected or elected to carry out certain assignment is (A) Workshop (B) Conference (C)Meeting (D) Congress
6. Which of the following is NOT part of the duties of a secretary before the meeting?
   (A) Consult with Chairman on the order of the Business
   (B) Ensure the notice of the meeting is circulated (C) Arrive in good time before the meeting (D) Circulate to all members any papers to be discussed
7. Assess which of these is NOT a function of a secretary (A) Safeguarding the personal property of his boss (B) Making traveling arrangement for the boss (C) writing and ensuring adequate documentation of the minutes (D) Receiving visitors
8. What role speaks lauder of a receptionist? (A) A public face of a business (B) Messenger of an organization (C) Executive boss of a business (D) Computer operator of a business
9. The duty to read minutes of the previous meeting is classified under the duty of.
   (A) Chairperson (B) A Secretary (C) Committee Chairman (D) Any member available
10. Which of these happens as a business attribute of a secretary (A) Answering phone call
    (B) Punctuality (C) Personal grooming (D) Sound work ethics
11. A proper meeting must have a chairman who must do all of the following except
    (A) Facilitate discussion (B) Keep order (C) Make sure proper Notice is given
    (D) Ensure fund is raised to aid members
12. The minimum number of people required for a meeting to be valid is known as
    (A) Quorum (B) Voting (C) Motion (D) Resolution
13. One of these is not a term used in the meeting (A) Analysis (B) Quorum (C) Ballot
    (D) Agenda
14. The relationship existing between one person and another and a group of persons or between individuals within an organization is (A) Meeting (B) Seconder (C) Proxy
    (D) Human relations
15. What would happen in notifying members of a meeting except
    (A) Notice of type meeting (B) Notice of the place, date and time of meeting(C) Notice to submit their motion promptly (D) Notice of the business to be considered at the meeting
16. Effective human relations and good character involve the following except
    (A) Speak clearly and distinctly (B) Talk in a loud voice
    (C) Not prying into other peoples affairs (D) Admitting your mistakes
17. What will happen when a meeting wants to decide a matter (A) Quorum (B) Point of order
    (C) Proxy (D) Voting

18. Discourtesies to be avoided in offices include the following except
    (A) Arriving late to work (B) Using slangs to speak to colleagues
    (C) Failure to answer the telephone promptly (D) Use tact in dealing with fellow workers
19. How is a secretary role similar to that of a receptionist?
    (A) Create the first impression that can mar or make the organization
    (B) Enforce executive order (C) Carry out less important task (D) Run errand
20. Which of these skills is NOT necessary for a secretary to be effective?
    (A) Skills in shorthand and word processing (B) Skills in advanced private Office practice
    (C) Skills in buying and selling (D) Skills in the use of various office machines and appliance
21. Which of these justifies the benefit of screening callers?
    (A) The displays before the incoming call and whose call to respond to or decline
    (B) To know who to deceive (C) To know who to welcome well
    (D) To know who to treat properly as a potential customer
22. One of these centers is a major training center for secretaries
    (A) Universities, Polytechnics and Colleges (B) Entrepreneurship centers
    (C) Staff development center (D) Workshop
23. Which of the following is NOT a definition of human relation?
    (A) The relationship between one person and another
    (B) The relationship that exists among staff in the forms of superior and subordinate
    (C) Good manners or just a way of showing respect for other
    (D) Agreement between two parties to run a business
24. Highest qualification for Office staff is known as (A) Senior Office Assistant
    (B) Chief Secretary (C) Office Assistant II (D) Principal Office Assistant III
25. One of the following is a fault to be avoided by office workers (A) Avoid sighing audibly
    (B) Always being your natural self (C) Accepting company standard
    (D) Speaking clearly and distinctly
26. Assess what screening caller will do to a receptionist
    (A) Give complete control over who can reach you by phone
    (B) Decide who can have access to your privacy
    (C) Assert who can be your friend online
    (D) Control who can delete your number
27. A Secretary must carefully do one of the following in arranging files
    (A) Ensure that documents are well moderated and endorsed
    (B) Adequately disburse document (C) Properly report to his boss
    (D) Take care and ensures that office files and records are well kept
28. The act of screening caller leave the receptionist with the choice to do one of these except
    (A) Accept calls (B) Decline or block specific numbers
    (C) Send some numbers directly to voicemail (D) Banned caller from using network
29. A point of order is raised when (A) An individual overstays his welcome in a meeting
    (B) The speaker has breached a principle of ordered debate
    (C) The Chairman rule on the point of order (D) A motion is raised
30. The Receptionist in handling and receiving people who visit the organization must
    (A) Be is polite and official (B) be rigid and stubborn (C) Be un unfriendly polite
    (D) make it difficult and uneasy
31. At the meeting a secretary aside taking note also
    (A) Reads the report of the committee (B) Victimize latecomers
    (C) Read the minutes of the previous meeting (D) Preside over the meeting
32. Before the meeting, the secretary must adequately consult (A) Treasurer (B),Chairman
    (C) Congress (D) Committee
33. The act of preparing a boss program of action of the event is known as
    (A) Itinerary (B)Minutes (C) Booking (D) Reservation

34. Which of the following should NOT apply in relating with visitors'?
    (A) Take time to talk to the visitors (B) Treat your visitors with the utmost respect
    (C) Greet visitor without a smile (D) Treat your visitor with care and caution
35. Do you think all of these is necessary for notifying members about a meeting except?
    (A) Notifying members about the type of meeting to be held
    (B) Notifying members about the place, date and time of the meeting
    (C) Notifying member about the main business to be considered
    (D) Notifying member about the item 7 to be served at the meeting
36. The following are possible steps to handle the Ladder except (A) Be polite (B) reassure
    (C) Don't transfer the call (D) Don't talk negatively
37. A motion is known as (A) a proposal that is put before a meeting for discussion
    (B) Movement in a particular direction in a meeting
    (C) Regulation of activities in a meeting to ensure orderliness
    (D) Resolutions arrived at in a meeting
38. One of these is the major duty of a secretary after the meeting (A) Report writing
    (B) Note taking (C) Preparation of the draft of minutes (D) Compilation of attendance
39. This caller will appear in your call queue often, showering you with compliments
    (A) The Screamer (B) The Flirt (C) The Rambler (D) The Low Talker
40. The act of tabling report at a meeting is an efficient tool for
    (A) Facilitating discussion and decision making (B) Regulating submissions at the meeting (C) Raising point of order (D) Responding to a motion
41. Office behaviour is known as (A) Expected reaction from a subordinate to a superior
    (B) Expected relationship or interaction that should exist among colleagues
    (C) Required marketing attitude at marketplace
    (D) Required relationship and interaction among family members
42. How would you deal with the problem of offensive or abusive language in a meeting?
    (A) A motion (B) Raising a point of order (C) An argument (D) An Addendum
43. A Resolution implies (A) Point raised at meeting (B) Issues Seconded (C) Motion passed
    (D) Motion on deliberation
44. If office operation must go on smoothly and permanently there is a need for
    (A) Good employer-employee relation as well as good human relations on the job
    (B) Good public awareness and interaction (C) Good dressing code to be ensured
    (D) Job performance analysis
45. What is the possible solution to prying into other people's affair in the workplace?
    (A) Effective human relation (B) Reception-visitor relation
    (C) Secretary boss relation (D) Marketers customer relation
46. The excuses given in advance for inability to attend meetings is known as (A) Quorum
    (B) Apologies (C) Consensus (D) Rider
47. What will happen when an individual moves a motion for adoption or adjournment?
    (A) Resolution (B) Seconder (C) Proxy (D) Convening
48. As dressing code is important so also is (A) Code of behaviour (B) Code of job
    (C) Code of conduct (D) Code of law
49. A Secretary's training should not include: (A) Advance Office practice
    (B) Repair of automobile (C) Skills in the use of office machine
    (D) Skills in shorthand and word processing
50. The act of someone who is not a member representing another person at a meeting is known as (A) Proxy (B) Secretary (C)Convene (D) representative

APPENDIX II

PRE-TEST MARKING GUIDE AND ANSWER SHEET

OFFICE TECHNOLOGY AND MANAGEMENT ACHIEVEMENT TEST
BES 327 - PRE-TEST MARKING GUIDE

1	2	3	4	5	6	7	8	9	10
C	**D**	**D**	**C**	**A**	**C**	**A**	**A**	**B**	**D**
11	12	13	14	15	16	17	18	19	20
D	**A**	**A**	**D**	**C**	**B**	**D**	**D**	**A**	**C**
21	22	23	24	25	26	27	28	29	30
A	**A**	**D**	**B**	**A**	**A**	**D**	**D**	**B**	**A**
31	32	33	34	35	36	37	38	39	40
C	**B**	**A**	**C**	**D**	**D**	**A**	**C**	**B**	**A**
41	42	43	44	45	46	47	48	49	50
B	**B**	**C**	**A**	**A**	**B**	**B**	**C**	**B**	**A**

Each correct answer attracts 2 Marks

Therefore: 50 x 2 = <u>100%</u>

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OFFICE TECHNOLOGY AND MANAGEMENT ACHIEVEMENT TEST

OFFICE TECH. AND MANAGEMENT EDUCATION Time Allowed: 40 Minutes

Institution:_____Matric. No:_____Sex:_____

ANSWER SHEET

INSTRUCTION: Write only one letter A – D in the table below against the numbers as provided to represent your answer

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

APPENDIX III

PRE-TEST

OFFICE TECHNOLOGY AND MANAGEMENT INTEREST INVENTORY (OTMII)

SECTION A:

Sex: Male ( ) Female ( )

SECTION B:

Instruction: Please tick [√] to indicate the degree to which you agree or disagree with each statement. Note that there is no wrong or right answer. Endeavour to be objective in your response.

Key: Strongly Agree **(SA)** Agree **(A)** Disagree **D)** Strongly Disagree **(SD)**

S/N	Interest Inventory Statements	SA	A	D	SD
1	Office technology and management education classes are very interesting to me.				
2	Office technology and management education lecture periods are always boring to me.				
3	I prefer participating in office technology and management education discussion via the face to face classroom interaction.				
4	It is better to use office technology and management education lecture periods for other activities.				
5	I attend office technology and management education lectures regularly.				
6	I usually like to take permission to absent myself from office technology and management education classes.				
7	Activities involved in office technology and management education make me feel I should pursue a career in office technology and management.				
8	I don't like discussing office technology and management education with classmates.				
9	When I am alone, I like ruminating on office technology and management education concepts.				
10	I don't ask questions during office technology and management education classes.				
11	Office technology and management education are generally boring when taught in the classroom.				
12	I don't like doing assignments on office technology and management education.				
13	Office technology and management education course contents are usually easy to understand.				
14	I always feel sleepy during office technology and management education lesson.				
15	If office technology and management education lecturer fails to come to the class on time, I often go to the office to call him/her.				
16	If office technology and management education lecturer misses his/her class, I always feel happy.				
17	I prefer office technology and management as a course to any other course in the department.				
18	I don't enjoy reading books on office technology and management education.				

19	Office technology and management education classes increase my likeness for business education programme.				
20	If I were a teacher, I will not like to teach office technology and management education.				
21	I pay much attention to office technology and management education lessons more than in any other course				
22	The non-successfulness of office technology graduates in securing good employment causes my hatred for office technology and management education.				
23	I always wish that office technology and management education lessons should continue even after its time is up.				
24	Office technology and management education lessons are usually wastage of time.				
25	I encourage my friends to develop an interest in office technology and management education.				
26	I engage myself stylishly with other assignments during office technology and management education lessons.				
27	Lessons on office technology and management education have enhanced my interest in studying office technology education.				
28	The methods adopted by the lecturer in teaching office technology and management education had negatively affected my interest in the course.				
29	I don’t do any extra studies on office technology and management education.				
30	I feel happy taking down notes on lessons involving office technology and management education.				

APPENDIX IV

POST-TEST

OFFICE TECHNOLOGY AND MANAGEMENT ACHIEVEMENT TEST

Institution:_____Matric. No:_____ Sex:_____

BES 327 - OFFICE TECH. AND MANAGEMENT EDUCATION Time Allowed: 40 Minutes

1. The following are possible steps to handle The Ladder except. (A) Be polite (B) reassure (C) Don't transfer the call (D) Don't talk negatively
2. How is a secretary role similar to that of a receptionist?
   (A) Create the first impression that can mar or make the organization
   (B) Enforce executive order (C) Carry out less important task (D) Run errand
3. Secretary's training should not include: (A) Advance Office practice
   (B) Repair of automobile (C) Skills in the use of office machine
   (D) Skills in shorthand and word processing
4. Which of these happens as a business attribute of a secretary (A) Answering phone call (B) Sound work ethics (C) Personal grooming (D) Punctuality
5. Secretary is not trained to become one of the following: (A) Receptionist
   (B) Administrative officer (C) Messenger (D) Computer operator
6. What role speaks lauder of a receptionist? (A) A public face of a business (B) Messenger of an organization (C) Executive boss of a business (D) Computer operator of a business
7. Discourtesies to be avoided include the following except (A) Arriving late to work
   (B) Using slangs to speak to colleagues (C) Failure to answer the telephone promptly
   (D) Use tact in dealing with fellow workers
8. This caller is seriously angry with your company and shows it throughout the call.
   (A) The Flirt (B) The Lonely One (C) The Screamer (D) The Whiner
9. The duties of a receptionist revolve around all of the following except one
   (A) Welcoming and attending to inquiries of visitors (B) Handling messages
   (C) Maintaining an appointment book (D) Process and ensure execution of the capital project
10. The act or process of coming together of some people appointed, selected or elected to carry out certain assignment is known as (A) Meeting (B) Conference (C) Workshop (D) Congress
11. Which of these is not a personal quality of a secretary (A) Trustworthiness (B) Loyalty (C) Polite (D) Good correspondence
12. Assess which of these is NOT a function of a secretary (A) Receiving visitors (B) Making traveling arrangements for the boss (C) writing and ensuring adequate documentation of the minutes (D) Safeguarding the personal property of his boss
13. The duty to read minutes of the previous meeting is classified under the duty of.
   (A) Chairperson (B) A Secretary (C) Committee Chairman (D) Any member available
14. This caller will appear in your call queue often, showering you with compliments
   (A) The Screamer (B) The Flirt (C) The Rambler (D) The Low Talker
15. A proper meeting must have a chairman who must do the following except one
   (A) Facilitate discussion (B) Keep order (C) Make sure proper Notice is given
   (D) Ensure fund is raised to aid members
16. What will happen when a meeting wants to decide a matter (A) Voting (B) Point of order (C) Proxy (D) Quorum
17. The excuses given in advance for inability to attend the meeting is (A) Quorum
   (B) Apologies (C) Consensus (D) Rider
18. The relationship between one person and another and also a group of person or between individuals within an organization is (A) Meeting (B) Seconder (C) Proxy
   (D) Human relation

19. Which of the following is NOT part of the duty of the secretary before the meeting
    (A) Consult with the Chairman on the order of the Business
    (B) Ensure the notice of the meeting is circulated
    (C) Circulate to all members any papers to be discussed
    (D) Arrive in good time before the meeting
20. The minimum number of people required for the meeting to be valid is (A) Quorum
    (B) Voting (C) Motion (D) Resolution
21. Effective human relations and good character involve the following except.
    (A) Speak clearly and distinctly (B) Do not pry into other peoples affairs
    (C) Talk in a loud voice (D) Admit your mistakes
22. What will happen when an individual moves a motion for adoption or adjournment?
    (A) Resolution (B) Seconder (C) Proxy (D) Convening
23. What would happen in notifying members of a meeting except
    (A) Notice of type meeting (B) Notice of the place, date and time of the meeting
    (C) Notice to submit their motion promptly
    (D) Notice of the business to be considered at the meeting
24. One of the following is a fault to be avoided by office workers (A) Avoid sighing audibly
    (B) Always being your natural self (C) Accepting company standard
    (D) Speaking clearly and distinctly
25. One of these is not a term applies in meeting (A) Ballot (B) Quorum (C) Analysis (D) Agenda
26. Before the meeting, the secretary must adequately consult (A) Treasurer (B),Chairman
    (C) Congress (D) Committee
27. Which of these skills is NOT necessary for a secretary to be effective?
    (A) Skills in shorthand and word processing (B) Skills in advanced private Office practice
    (C) Skills in buying and selling (D) Skills in the use of various office machines and appliance
28. One of these centers is a major training center for secretaries
    (A) Universities, Polytechnics and Colleges (B) Entrepreneurship centers
    (C) Staff development center (D) Workshop
29. Office behaviour is known as (A) Expected reaction from a subordinate to a superior
    (B) Expected relationship or interaction that should exist among colleagues
    (C) Required marketing attitude at marketplace
    (D) Required relationship and interaction among family members
30. A Secretary must carefully do one of the following in arranging files
    (A) Take care and ensures that office files and records are well kept
    (B) Adequately disburse document (C) Properly report to his boss
    (D) Ensure that documents are well moderated and endorsed
31. The Receptionist in handling and receiving people who visit the organization must
    (A) Be is polite and official (B) be rigid and stubborn (C) Be un unfriendly polite
    (D) make it difficult and uneasy
32. The act of preparing a boss program of action of the event is known as
    (A) Minutes (B) Itinerary (C) Booking (D) Reservation
33. Which of these justifies the benefit of screening callers?
    (A) The displays before the incoming call and whose call to respond to or decline
    (B) To know who to deceive (C) To know who to welcome well
    (D) To know who to treat properly as a potential customer
34. One of these is the major duty of a secretary after the meeting (A) Report writing
    (B) Note taking (C) Preparation of the draft of minutes (D) Compilation of attendance
35. Which of the following should NOT apply in relating with visitors'?
    (A) Take time to talk to the visitors (B) Treat your visitors with the utmost respect
    (C) Greet visitor without a smile (D) Treat your visitor with care and caution

36. Do you think all of these is necessary for notifying members about a meeting except?
    (A) Notifying members about the type of meeting to be held
    (B) Notifying members about the place, date and time of the meeting
    (C) Notifying member about the main business to be considered
    (D) Notifying member about the item 7 to be served at the meeting
37. A motion is known as (A) a proposal that is put before a meeting for discussion
    (B) Movement in a particular direction in a meeting
    (C) Regulation of activities in a meeting to ensure orderliness
    (D) Resolutions arrived at in a meeting
38. Assess what screening caller will do to a receptionist
    (A) Give complete control over who can reach you by phone
    (B) Decide who can have access to your privacy
    (C) Assert who can be your friend online
    (D) Control who can delete your number
39. At the meeting a secretary aside taking note also
    (A) Reads the report of the committee (B) Victimize latecomers
    (C) Read the minutes of the previous meeting (D) Preside over the meeting
40. The act of screening caller leave the receptionist with the choice of the following except
    (A) Accept calls (B) Decline or block specific numbers
    (C) Send some numbers directly to voicemail (D) Banned caller from using network
41. The act of someone who is not a member representing another person at a meeting is known as (A) Convene (B) Secretary (C) Proxy (D) representative
42. A point of order is raised when (A) An individual overstays his welcome in a meeting
    (B) The speaker has breached a principle of ordered debate
    (C) The Chairman rule on the point of order (D) A motion is raised
43. As dressing code is important so also is (A) Code of Behaviour (B) Code of job
    (C) Code of conduct (D) Code of law
44. How would you deal with the problem of offensive or abusive language in a meeting?
    (A) A motion (B) Raising a point of order (C) An argument (D) An Addendum
45. A Resolution implies (A) Point raised at meeting (B) Motion passed (C) Issues Seconded
    (D) Motion on deliberation
46. Which of the following is NOT a definition of human relation?
    (A) The relationship between one person and another
    (B) The relationship that exists among staff in the forms of superior and subordinate
    (C) Good manners or just a way of showing respect for other
    (D) Agreement between two parties to run a business
45. What is the possible solution to prying into other people's affair in the workplace?
    (A) Effective human relation (B) Reception-visitor relation
    (C) Secretary boss relation (D) Marketers customer relation
48. Highest qualification for Office staff is known as (A) Senior Office Assistant
    (B) Office Assistant II (C) Chief Secretary (D) Principal Office Assistant III
49. The act of tabling report at a meeting is an efficient tool for
    (A) Facilitating discussion and decision making (B) Regulating submissions at the meeting
    (C) Raising point of order (D) Responding to a motion
50. If office operation must go on smoothly and permanently there is a need for
    (A) Good employer-employee relation as well as good human relations on the job
    (B) Good public awareness and interaction (C) Good dressing code to be ensured
    (D) Job performance analysis

APPENDIX V

POST-TEST MARKING GUIDE AND ANSWER SHEET

OFFICE TECHNOLOGY AND MANAGEMENT ACHIEVEMENT TEST
BES 327 – OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION
POST-TEST MARKING GUIDE

1	2	3	4	5	6	7	8	9	10
D	**A**	**B**	**B**	**C**	**A**	**D**	**C**	**D**	**A**
11	12	13	14	15	16	17	18	19	20
D	**D**	**B**	**B**	**D**	**A**	**B**	**D**	**D**	**A**
21	22	23	24	25	26	27	28	29	30
C	**B**	**C**	**A**	**C**	**B**	**C**	**A**	**B**	**A**
31	32	33	34	35	36	37	38	39	40
A	**B**	**A**	**C**	**C**	**D**	**A**	**A**	**C**	**D**
41	42	43	44	45	46	47	48	49	50
C	**B**	**C**	**B**	**B**	**D**	**A**	**C**	**A**	**A**

Each correct answer attracts 2 Marks
Therefore: 50 x 2 = 100%

OFFICE TECHNOLOGY AND MANAGEMENT ACHIEVEMENT TEST

OFFICE TECH. AND MANAGEMENT EDUCATION Time Allowed: 40 Minutes

Institution:_____Matric. No:_____ Sex:_____

ANSWER SHEET

INSTRUCTION: Writing only one letter A – D in the table below against the numbers as provided to represent your answer

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

APPENDIX VI

POST-TEST

OFFICE TECHNOLOGY AND MANAGEMENT INTEREST INVENTORY (OTMII)

SECTION A:

Sex: Male ( ) Female ( )

SECTION B:

Instruction: Please tick [√] to indicate the degree to which you agree or disagree with each statement. Note that there is no wrong or right answer. Endeavour to be objective in your response.

Key: Strongly Agree **(SA)** Agree **(A)**Disagree**(D)** Strongly Disagree **(SD)**

S/N	Interest Inventory Statements	SA	A	D	SD
1	Office technology and management education classes are very interesting to me.				
2	Office technology and management education lecture periods are always boring to me.				
3	I prefer participating in office technology and management education discussion via the face to face classroom interaction.				
4	It is better to use office technology and management education lecture periods for other activities.				
5	I attend office technology and management education lectures regularly.				
6	I usually like to take permission to absent myself from office technology and management education classes.				
7	Activities involved in office technology and management education make me feel I should pursue a career in office technology and management.				
8	I don't like discussing office technology and management education with classmates.				
9	When I am alone, I like ruminating on office technology and management education concepts.				
10	I don't ask questions during office technology and management education classes.				
11	Office technology and management education is generally boring when taught in the classroom.				
12	I don't like doing assignments on office technology and management education.				
13	Office technology and management education course contents are usually easy to understand.				
14	I always feel sleepy during office technology and management education lesson.				
15	If office technology and management education lecturer fails to come to the class on time, I often go to the office to call him/her.				
16	If office technology and management education lecturer misses his/her class, I always feel happy.				
17	I prefer office technology and management as a course to any other course in the department.				
18	I don't enjoy reading books on office technology and management				

	education.				
19	Office technology and management education classes increase my likeness for business education programme.				
20	If I were a teacher, I will not like to teach office technology and management education.				
21	I pay much attention to office technology and management education lessons more than in any other course				
22	The non-successfulness of office technology graduates in securing good employment causes my hatred for office technology and management education.				
23	I always wish that office technology and management education lessons should continue even after its time is up.				
24	Office technology and management education lessons are usually wastage of time.				
25	I encourage my friends to develop an interest in office technology and management education.				
26	I engage myself stylishly with other assignments during office technology and management education lessons.				
27	Lessons on office technology and management education have enhanced my interest in studying office technology education.				
28	The methods adopted by the lecturer in teaching office technology and management education had negatively affected my interest in the course.				
29	I don’t do any extra studies on office technology and management education.				
30	I feel happy taking down notes on lessons involving office technology and management education.				

APPENDIX VII

LESSON PLAN

EXPERIMENTAL GROUP (Blended Learning Method Participants)

Week: 1st
Class: NCE 3
Subject: Office Technology and Management Education
Topic: The Secretary: Training and Qualification
Duration: 2 hours (1hr lecture and 1hr blended learning (online))
Learning Objectives: By the end of the lesson, the students should be able to:

(i) Explain the meaning of a secretary
(ii) Explain briefly the training of secretary
(iii) Mention the qualifications of a secretary
(iv) Identify the personal qualities of a secretary to apply at work
(v) State and explain the business attributes of a secretary
(vi) List and explain the functions of a secretary

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson in the class and subsequently ask the students: - To login to their Google classroom and access detail overview of the course. - To comment on the blog and Google classroom and engaged in the discussion.	The students access the course outlines and description in the Google class and comments.	Lecture note, Participants devices, internet, browser and blogs media site.
Meaning of Secretary	The teacher posts or uploads blog containing the note on the Google classroom for discussion: A secretary in an office is one of the first contacts the outside world has with the organization. Also, a secretary is an office employee who deals with correspondence, keeps records, making arrangements and appointments for a particular member of staff. A secretary is an assistant to an executive, possessing a mastery of office skills and ability, who assumes responsibilities without direct supervision, displays initiative, execute judgment within her scope. The secretary works to support the executive in reaching its set goals. Thus secretaries have always been indispensable human resources for the Chief Executive.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students commentand ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Secretary's Training and Qualification	The teacher posts or uploads the blog containing the details (the training and qualification of a secretary) on the Google classroom for discussion:	The students: (i) Access the note through the blog uploaded on	Lecture note, Participants devices, internet, browser, and

	The training of a secretary covers not only skills in shorthand and word processing but also skills in advanced private Office practice and skills in the use of various office machines and appliance. The training of secretaries is basically received from the various institutes of learning, starting from the training received in business studies class at the lowest level to the university level and professional certification which is the highest level. The training includes the training to become: A clerk, Office manager, Clerical officer, Receptionist, Computer Operator, Administrative officer, File manager, Executive assistant, etc. **Office staff and their qualifications are as follow:** **Office Assistant II-** (WASCE plus 80/35 in Shorthand/Typewriting) **Senior Office Assistant -**(WASCE plus 100/50 in Shorthand/ Typewriting or National Diploma) **Principal Office Assistant III -** (WASCE plus 120/50 in Shorthand/Typewriting or Higher National Diploma) **Principal Office Assistant II -**(WASCE plus 120/60 in Shorthand/Typewriting or Higher National Diploma) **Principal Office Assistant I-** (Same as for Principal Assistant II plus more years of experience) **Assistant Chief Secretary-** (Same as for Principal Assistant I plus more years of experience) **Chief Secretary -** (Same as for Assistant Chief Secretary plus more years of experience).	the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students commentand ask questions.	blogs media site
Personal Qualities, business attributes, and functions of a Secretary	The teacher posts or uploads blog containing the note on the Google classroom for discussion: **Personal qualities of a Secretary** The following are the personal qualities of a secretary. **1. Trustworthiness**: A secretary must be truthful 2. **Regularity and Punctuality**: A secretary should be on her duty post before the arrival of his/her boss in order	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions.	Lecture note, Participants devices, internet, browser, and blogs media site

	to bring up the day's outstanding matters. i.e. an employee should, apart from being regular at work, not only report to work on time but also get settled at work on time. 3. **Humility:** A secretary must be humble in order to maintain good human relations. 4. **Confidentiality**: A secretary should abide by the Office ethics that is he/she must not divulge information. 5. **Friendliness:** A secretary must be friendly and able to mix freely with her colleagues in order to make a success of office work. 6. **Loyalty:** A secretary must be dedicated to her superiors and her organization. She needs to be committed to her work, which includes: putting extra hours to ensure that urgent works need to be completed on time, i.e. an employee's personal interest must not override that of his organization. **Secretary's Business Attributes** 1. **Sound work ethics**: A secretary should abide by ethics, rules, and regulations of the Office profession 2. **Good correspondence:** A secretary must know how to compose a mail, the incoming and outgoing emails. 3. Basic knowledge of computer: 4. **Business communication skills**: A secretary should possess good communication skills both oral and written. 5. Self-motivation 6. **Pleasant disposition:** Addressing visitor in a good tone 7. Presentable personality 8. **Multi-tasking abilities**: A Secretary should be able to perform different tasks **Functions of a secretary** 1.Arranging files and other documents. A secretary takes care and ensures that office files, records and some other documents are well kept and neatly arranged. 2.Answering phone calls and making phone calls 3.He/she makes traveling arrangements for the boss.	(iii) Students commentand ask questions.	

	4.He/she prepares the itinerary of the boss i.e. a programme of action of events 5.He/she schedules meetings and ensures that the venue for official meetings is well arranged and neatly prepared.		
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (i) Defined secretary (ii) Explain briefly on the training of secretary (iii) Mention the qualification of the secretary (iv) Identify the personal qualities of a secretary to apply at work (v) State and explain the business attributes of a secretary (vi) List and explain the functions of a secretary	The students respond to the teacher's questions and ask their own questions on the topic.	.
Summary	The teacher posts or uploads the summary of the lesson on the Google classroom.	The students: - Access the note on the Google classroom platform. - Read the note and make comment. - Participate in discussions.	

LESSON PLAN

EXPERIMENTAL GROUP

Week: **2nd**

Class: NCE 3

Subject: Office Technology and Management Education

Topic: Receptionist

Duration: 2 hours (1hr lecture and 1hr blended learning (online))

Learning Objectives: By the end of the lesson, the students should be able to:

(i) Explain the concept Receptionist
(ii) State and briefly explain the duties of a receptionist
(iii) List and explain types of callers to the office
(iv) Identify steps to apply in screening and putting calls on check
(v) State the benefits of screening callers
(vi) Enumerate applicable procedure in handling and receiving visitors

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson in the class and subsequently ask the students: - To login to their Google classroom and access detail overview of the course. - To comment on the blog and Google classroom and engaged in the discussion.	The students follow the instructions and answer the teacher's questions.	Lecture note, Participants devices, internet, browser, and blogs,
Meaning of Receptionist	The teacher discusses the topic with the students in the classroom then posts or uploads blog containing the note in the Google classroom for discussion: Receptionists are generally the link between the firm and the customer or clients and usually refer clients to appropriate members of staff. A receptionist can also be defined as an individual serving as the first point of contact in an office. Receptionists are usually seated at the entrance of an office and do a variety of administrative tasks including, but not limited to, answering phone calls, making photocopies, distributing mail, signing for packages, and general office upkeep. Some companies employ a receptionist for the sole purpose of answering phones, but with the advancement of technology, digital answering services and outsourced receptionist firms are the new wave of the future. The receptionist represents the public face of a business. He or She is often the first person a customer sees or the first voice he hears over the phone.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Receptionist Duties	The teacher posts or uploads blog containing the note in the Google classroom for	The students: (i) Access the	Lecture note, Participants

	discussion: Mostly, the responsibilities of a receptionist revolve around welcoming, receiving and attending to inquiries or requests of clients, customers, and guests. In specific terms, the responsibilities of a receptionist vary according to the nature of the operation in an organization and are normally spelled out in the appointment letter and handbook of an organization. i. Handling of messages ii. Maintaining an appointment book iii. Receiving telephone calls on behalf of the organization iv. Connecting guests and visitors with their hosts in an organization v. Taking records of visitors, such as name, time of visit, phone numbers, signature, the purpose of visits, and time of exit etc vi. Keeping of register of all calls etc.	note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	devices, internet, browser, and blogs media site
Types of Callers	The teacher posts or uploads blog containing the note in the Google classroom for discussion: **1. The Flirt:** Work isn't the only place you'll run into this type of caller, but it can be the most awkward place to have a run-in. The Flirt may or may not be interested in pursuing you romantically, but that doesn't mean they won't schmooze it up on the line. They're one of the most predictable types of callers, and therefore are easier to thwart in their inappropriate flirtation. **2. The Screamer:** This caller is seriously angry with your company and they show it by screaming at you throughout the call. It might seem like nothing will elicit a calm response from this caller, but approaching it in the right manner can have a positive effect. The Screamer might come off cool and logical at first and then launch into a loud tirade. They might start yelling from the moment you pick up the phone. They might include curse words and insults that you are simply not comfortable hearing. **3. The Lonely One:** The Lonely One calls with a weak question (What type of account do I have again?) and wants to stay on the call as long as possible. That's because the business of their original call isn't really important to them–they simply wanted to hear another human being's voice. On the bright side, they knew that calling your company	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site

	would result in them being connected to a living, breathing customer service specialist (good for your company!). **4. The Rambler:** Seemingly innocent at first, The Rambler can be a deceptively dangerous type of caller. They funnel your time (and time=money) away by tying up the line for longer than necessary. The Rambler can get personal–telling you about his or her life, hardships, family, and friendships. Or, The Rambler can be all business, asking tons of questions about your product or service, or asking the same questions over and over again. **5. The Tease:** They call, they act like they want your product or service, and they do a wonderful job of appearing interested. They say "Ooh" and "Aah" at the right moments and allow you to run through an entire sales pitch before they flatly or indifferently say, "Nah." What? But you seemed so interested in the 5-year warranty! Have you completely forgotten how you agreed that your current provider just isn't cutting it? Why are you turning us down now? We don't really know what this caller is thinking.		
Screening caller	The teacher posts or uploads blog containing the note in the Google classroom for discussion: **Screening caller and its benefits** Screening callers give complete control over who can reach you by phone. Accept, decline, or block specific numbers and send others directly to voicemail. Work days are busy enough without having to deal with nuisance or untimely callers. **Phone caller screening:** • When a call comes in, caller ID* details appear on your phone's display, informing you who is on the line. You now have the choice to pick up the call, decline it, or send it directly to voicemail. • If you have phone numbers or people you never want to talk to, you can block their calls from ever connecting with you. Call blocking can be an effective option for reducing telemarketing calls. **Benefits of screening calls:** • Call screening options let you identify callers and choose your response.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site

	• Caller ID information displays before the incoming call ever connect, giving you some reference to decide how you want to respond to the call. You can answer it, decline it, or send it directly to voicemail. • Configure your account to have your desk phone prompt callers to announce their names before the call connects as an extra level of screening, so you know exactly who is on the line as well as which business they're calling from. • Configure your desk phone to hear which department or extension is calling, so you can decide how to respond.		
Handling and Receiving visitors	The teacher posts or uploads blog containing the note in the Google classroom for discussion: Reception is an art of receiving people who visit the organization, and therefore should have a procedure of making it polite and official. Generally, the following measures have been suggested on how to relate with visitors: i. Take the time to talk to the visitor ii. Always put yourself in the visitor's place, if you were the one visiting an organization, how would you want to be treated? Then, treat your visitor the way and manner you want to be treated. iii. Treat your visitors with utmost respect iv. Communicate and speak confidently with your visitors v. Don't keep customers too long before you attend to them vi. Treat your visitors with care and caution	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (i) Define Receptionist (ii) State and briefly explain the duties of a receptionist (iii) List and explain types of callers (iv) Identify steps to apply in screening and putting calls on check (v) State the benefits of screening callers (vi) Enumerate applicable procedure in handling and receiving visitors	The students respond to the teacher's questions and ask their own questions on the topic.	
Summary	The teacher posts or uploads the summary of the lesson in the Google classroom.	The students: - Read and make comment.	

LESSON PLAN

EXPERIMENTAL GROUP

Week: **3rd**

Class: NCE 3

Subject: Office Technology and Management Education

Topic: Meeting: Duties, procedures, and terms used in meeting

Duration: 2 hours (1hr lecture and 1hr blended learning (online))

Learning Objectives: By the end of the lesson, the students should be able to:

(i) Define and explain the conceptual meaning of meeting
(ii) State the duties of secretary before meeting
(iii) State the duties of secretary during the meeting
(iv) State the duties of secretary after meeting
(v) Mention and explain procedures to apply in a standard meeting
(vi) State the terminologies used in meeting

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson in the class and subsequently ask the students: - To login to their Google classroom and access detail overview of the course. - To comment on the blog and Google classroom and engaged in the discussion.	The students answer the teacher's question	Lecture note, Participants devices, internet, browser, and blogs
Meaning of Meeting	The teacher posts or uploads blog containing the note in the Google classroom for discussion: A meeting in its ordinary sense means the coming together of some people appointed, selected or elected to carry out the certain assignment for the benefit of those who appointed or selected them. Meetings form a major part of communication between the staff and management of the organization. A meeting must consist of at least two (2) persons. The involvement of secretaries at meetings is very essential as secretaries play major roles in the conduct of any meeting. The meeting is also defined as the coming together of a number of persons at a certain time and place; especially for a discussion.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Secretary's duties before, during and after the meeting.	The teacher posts or uploads blog containing the note in the Google classroom for discussion: **Before the Meeting** The duties of the secretary before the meeting include: i. Consulting with the chairman on the order of business for the meeting, and	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their	Lecture note, Participants devices, internet, browser, and blogs media site

	the way in which it should be dealt with on the agenda. Decide what business requires discussion and what required a decision by the management committee ii. Ensuring that the notice of the meetingis given, that suitable accommodating is arranged and confirmed, and that copies of the agenda are prepared. iii. Circulating to all members (a) any papers to be discussed at the upcoming meeting and (b) a copy of the agenda, minutes of the previous meeting, and iv. Making sure that any report or information requested at the last meeting is available or that there is a good reason if it is not. **During the Meeting** The following are the duties of the secretary during the meeting i. Arrive in good time before the meeting with the minutes and with all the relevant correspondence and business matters for that meeting, in good order. Record the names of those who are present, and convey and record apologies received from those who are absent. ii. Read the minutes of the previous meeting and if they are approved, obtain the chairman's signature on them iii. Report on the action or matters arising from the previous minutes. Read any important correspondence that has been received. iv. Unless there is a minutes secretary, take note of the meeting, recording the key points and making sure that all decisions and proposals are recorded, as well as the name of the person or group responsible for carrying them out. Make sure action points are clear, and v. Make sure that the chairman is supplied with all the necessary information for items on the agenda, and remind the chairman if an item has been overlooked. **After the Meeting** The duties of secretary after the meeting include: i. Prepare a draft of the minutes (unless there is a minutes secretary) and consult the chairman and most senior staff	personal jotting and participate in discussions. (iii) Students comment and ask questions.	

	member (where relevant) for approval. ii. Send a reminder notice of each decision requiring action to the relevant person; this can be done by telephone, or by an ‘’action list’’ with the relevant action for each person duly marked; and iii. Promptly send all correspondence as decided by the management committee.		
Meeting Procedures	The teacher posts or uploads blog containing the note in the Google classroom for discussion: All formal meetings of the association must be properly convened in accordance with the association’s rules. All members must be notified of: 1. what type of meeting is being held; 2. the place, date and time of the meeting; and 3. the business to be considered at the meeting, including the full text of all motions that will be put to members at the meeting. When the meeting has commenced, it is important to first establish that there is a quorum to satisfy the quorum requirements in the association's rules. If there are not enough members present at the meeting, it will be invalid and any motions passed may not be effective. If there is a quorum, then all voting and passing of resolutions must be carried out in accordance with the rules and recorded accurately in the minutes. Incorporated associations are intended to be run in a democratic manner. The way in which meetings are conducted can have a major effect on members’ perceptions of whether their association is democratic.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Terms used in meeting	The teacher posts or uploads blog containing the note in the Google classroom for discussion: The following are some meeting terminologies. **Attendance Register:** This is a book containing the names of members who attended a meeting. It is usually placed at the entrance for members to sign when they arrive **Adjournment:** This is a motion to bring a meeting to a conclusion or postpone a meeting and to reconvene at a later date. **Agenda:** This is the list of things, to be	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site

	done at a meeting. **Amendment:** This is a proposal which sought to amend a motion already put to the members. It may add or delete words. And must be proposed, seconded and put to the meeting. **Ballot:** This is a method of voting used when secrecy is necessary **Minutes:** This is a written record of the business completed at a meeting **Quorum:** This is the minimum number of people that must be present to constitute a meeting. **Apologies:** These are excuses given in advance for inability to attend a meeting. **Unanimous:** It means without any opposition – joint agreement **Consensus:** This means an agreement by general consent rather than by voting.		
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (i) Define meeting (ii) State the duties of secretary before meeting (iii) State the duties of secretary during the meeting (iv) State the duties of secretary after meeting (v) Give a brief explanation on meeting procedure (vi) Mention and explain procedures to apply in a standard meeting (vii) State the terminologies used in meeting	The students respond to the questions in the classroom and interact on the blogging platform.	
Summary	The teacher posts or uploads the summary of the lesson in the Google classroom as a follow up to misconceptions of students during the class section.	The students: - Access the note on the Google classroom platform. - Read the note and make comment and Participate in discussions.	

LESSON PLAN

EXPERIMENTAL GROUP

Week: **4th**

Class: NCE 3

Subject: Office Technology and Management Education

Topic: Human Relation

Duration: 2 hours (1hr lecture and 1hr blended learning (online))

Learning Objectives: By the end of the lesson, the students should be able to:

(i) Define and explain the conceptual meaning of human relation
(ii) State the effective human relations and good character to be applied on the job with boss and colleagues
(iii) State the inexcusable discourtesies which all employees (office staff) should avoid in relating with Boss
(iv) List the faults to be avoided by office workers or employees

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson in the class and subsequently ask the students: - To login to their Google classroom and access detail overview of the course. - To comment on the blog and Google classroom and engaged in the discussion.	The students follow the instructions and answer the teacher's questions.	Lecture note, Participants devices, internet, browser, and blogs.
Meaning of human relation	The teacher posts or uploads blog containing the note in the Google classroom for discussion: The human relation is defined as the relationship between one person and another and also a group of persons or between individuals within a community. Good manners are just a way of showing other people that you have respect for them. As dressing code is important, so also a code of conduct is paramount at workplace, especially in the office, where most visitors and prospective customers of the organization approach. Good manners are very important in business premises (office) because a company can be undermined by a single thoughtless act by one of its employees. A spirit of courtesy is what matters most. Customary formalities can be empty and insincere unless they express naturally a feeling of goodwill.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Human relation	The teacher posts or uploads blog	The students:	Lecture note,

with Boss and Colleagues	containing the note in the Google classroom for discussion: The following are the expected human relation with boss and colleagues: i. Do not make others feel unimportant by your actions ii. Use tact in dealing with your fellow workers iii. Do not make sarcastic remarks iv. Speak clearly and distinctly v. Do not pry into other people's affairs vi. Do not monopolize conversations vii. Avoid pointing out other workers' little mistakes viii. Try to listen to your fellow workers ix. Avoid interrupting your co-workers' conversations x. Avoid getting into arguments with your co-workers xi. Admit your mistakes xii. Avoid getting angry and 'blowing up' at work	(i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Participants devices, internet, browser, and blogs media site
State and explain the inexcusable discourtesies	The teacher posts or uploads blog containing the note in the Google classroom for discussion: The following are the inexcusable discourtesies to avoid in relating with the boss: i. Failure to answer the telephone promptly. ii. Delay in answering a call from their supervisors or superior. iii. Insisting on finishing an unimportant task before attending to a caller or a visitor. iv. Arriving late to work v. Spending unusually long periods away from their desks unnecessarily. vi. Grooming in public. vii. Using slang to speak to colleagues, especially superiors and visitors. viii. iscussing your employer's affairs, or the business of the company, with people outside the company. ix. Wasting your listener's time by speaking indistinctly and making them ask for a repeat of what is said. Talking too loud	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site

List and explain the faults to be avoided at work	The teacher posts or uploads blog containing the note in the Google classroom for discussion: The following are the faults to avoid to ensure good human relation between boss and other colleagues: i. All employees should avoid talking in a loud voice either to others or over the telephone. ii. All employees should avoid sighing audibly, snapping fingers or noisily tearing or throwing up papers when they make a mistake. iii. Employees should avoid introducing their private lives into office conversations especially if they speak boastfully. iv. Employees should endeavour not to borrow constantly from others such things as money, stationery or a dictionary. They are likely to become unpopular if they cultivate the habit of borrowing. v. Employees should respect their co-worker's privacy. vi. If an executive enters a subordinate's office, the subordinate should not greet him sitting down.	The students: (i) Access the note through the blog uploaded on the Google classroom. (ii) Read the note and do their personal jotting and participate in discussions. (iii) Students comment and ask questions.	Lecture note, Participants devices, internet, browser, and blogs media site
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (i) Define and explain the conceptual meaning of human relation (ii) State the effective human relations and good character to be applied on the job with boss and colleagues (iii) State the inexcusable discourtesies (iv) List the faults to be avoided	The students respond to the questions in the classroom and interact on the blogging platform.	Participants' devices, internet, browser, and blog platform.
Summary	The teacher posts or uploads the summary of the lesson on the Google classroom.	The students: - Access the note on the Google classroom platform. - Read the note and make comment and Participate in discussions.	

APPENDIX VIII

LESSON

CONTROL GROUP (Lecture Teaching Method Participants)

Week: 1st
Class: NCE 3
Subject: Office Technology and Management Education
Topic: The Secretary: Training and Qualification
Duration: 2 hours
Learning Objectives: By the end of the lesson, the students should be able to:

(i) Explain the meaning of a secretary
(ii) Explain briefly the training of secretary
(iii) Mention the qualifications of a secretary
(iv) Identify the personal qualities of a secretary to apply at work
(v) State and explain the business attributes of a secretary (vi) List and explain the functions of a secretary

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson by asking the students say who a secretary is from their own understanding. Teacher after listening to different opinions writes the topic on the board.	The students answer, ask questions and jot down fact on their notebook. The teacher can now write down the topic on the chalkboard	Lecture note, and whiteboard.
Meaning of Secretary	The teacher defines and explains the meaning of a secretary: A secretary in an office is one of the first contacts the outside world has with the organization. Also, a secretary is an office employee who deals with correspondence, keeps records, making arrangements and appointments for a particular member of staff. A secretary is an assistant to an executive, possessing a mastery of office skills and ability, who assumes responsibilities without direct supervision, displays initiative, execute judgment within her scope. The secretary works to support the executive in reaching its set goals. Thus secretaries have always been indispensable human resources for the	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.

	Chief Executive.		
Secretary's Training and Qualification	The teacher explains the training and qualification of a secretary: The training of a secretary covers not only skills in shorthand and word processing but also skills in advanced private Office practice and skills in the use of various office machines and appliance. The training of secretaries is basically received from the various institutes of learning, starting from the training received in business studies class at the lowest level to the university level and professional certification which is the highest level. The training includes the training to become: A clerk, Office manager, Clerical officer, Receptionist, Computer Operator, Administrative officer, File manager, Executive assistant, etc. **Office staff and their qualifications are as follow:** **Office Assistant II-** (WASCE plus 80/35 in Shorthand/Typewriting) **Senior Office Assistant -**(WASCE plus 100/50 in Shorthand/ Typewriting or National Diploma) **Principal Office Assistant III -** (WASCE plus 120/50 in Shorthand/Typewriting or Higher National Diploma) **Principal Office Assistant II -** (WASCE plus 120/60 in Shorthand/Typewriting or Higher National Diploma) **Principal Office Assistant I-** (Same as for Principal Assistant II plus more years of experience) **Assistant Chief Secretary-** (Same as for Principal Assistant I plus more years of experience) **Chief Secretary -** (Same as for Assistant Chief Secretary plus more years of experience).	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.
Personal Qualities, business attributes, and functions of a Secretary	The teacher states and explains Personal Qualities, business attributes, and functions of a Secretary. **Personal qualities of a Secretary** The following are the personal qualities of a secretary. 1. **Trustworthiness**: A secretary must be truthful.	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the	Lecture note and whiteboard.

	2. **Regularity and Punctuality**: A secretary should be on her duty post before the arrival of his/her boss in order to bring up the day's outstanding matters. i.e. an employee should, apart from being regular at work, not only report to work on time but also get settled at work on time. 3. **Humility:** A secretary must be humble in order to maintain good human relations. 4. **Confidentiality**: A secretary should abide by the Office ethics that is he/she must not divulge information. 5. **Friendliness:** A secretary must be friendly and able to mix freely with her colleagues in order to make a success of office work. 6. **Loyalty:** A secretary must be dedicated to her superiors and her organization. She needs to be committed to her work, which includes: putting extra hours to ensure that urgent works need to be completed on time, i.e. an employee's personal interest must not override that of his organization. **Secretary's Business Attributes** 1. **Sound work ethics**: A secretary should abide by ethics, rules, and regulations of the Office profession 2. **Good correspondence:** A secretary must know how to compose a mail, the incoming and outgoing emails. 3. Basic knowledge of computer: 4. **Business communication skills**: A secretary should possess good communication skills both oral and written. 5. Self-motivation 6. **Pleasant disposition:** Addressing visitor in a good tone 7. Presentable personality 8. **Multi-tasking abilities**: A Secretary should be able to perform different tasks **Functions of a secretary** 1. Arranging files and other documents. A secretary takes care and ensures that office files, records, and some other documents are well kept and neatly arranged. 2. Answering phone calls and making	discussions. (iii) Contribute their own ideas about the subject matter.	

	phone calls 3. He/she makes traveling arrangements for the boss. 4. He/she prepares the itinerary of the boss i.e. a programme of action of events 5. He/she schedules meetings and ensures that the venue for official meetings is well arranged and neatly prepared.		
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (i) Explain the meaning of a secretary (ii) Explain briefly the training of secretary (iii) Mention the qualifications of a secretary (iv) Identify the personal qualities of a secretary to apply at work (v) State and explain the business attributes of a secretary (vi) List and explain the functions of a secretary	The students respond to the evaluation questions.	
Summary	The teacher summarises the lesson by rounding up the class and reiterating on areas not properly answered by students.	Students' listen and look forward to the next lesson.	

LESSON PLAN

CONTROL GROUP
Week: **2nd**
Class: NCE 3
Subject: Office Technology and Management Education
Topic: Receptionist
Duration: 2 hours
Learning Objectives: By the end of the lesson, the students should be able to:

(vi) Explain the concept Receptionist
(vii) State and briefly explain the duties of a receptionist
(viii) List and explain types of callers to the office
(ix) Identify steps to apply in screening and putting calls on check
(x) State the benefits of screening callers
(vi) Enumerate applicable procedure in handling and receiving visitors

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson by asking the students to (i) define secretary (ii) explain the training of secretary (iii) state the qualification of secretary. Teacher after listening to different opinions writes the new topic on the board.	The students answer, ask questions and jot down fact on their notebook. The teacher can now write down the topic on the chalkboard	Lecture note and whiteboard.
Meaning of Receptionist	The teacher defines and explains the meaning of receptionist: Receptionists are generally the link between the firm and the customer or clients and usually refer clients to appropriate members of staff. A receptionist can also be defined as an individual serving as the first point of contact in an office. Receptionists are usually seated at the entrance of an office and do a variety of administrative tasks including, but not limited to, answering phone calls, making photocopies, distributing mail, signing for packages, and general office upkeep. Some companies employ a receptionist for the sole purpose of answering phones, but with the advancement of technology, digital answering services and outsourced receptionist firms are the new wave of the future.	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.

Receptionist Duties	The teacher states the duties of a receptionist: Mostly, the responsibilities of a receptionist revolve around welcoming, receiving and attending to inquiries or requests of clients, customers, and guests. In specific terms, the responsibilities of a receptionist vary according to the nature of the operation in an organization and are normally spelled out in the appointment letter and handbook of an organization. i. Handling of messages ii. Maintaining an appointment book iii. Receiving telephone calls on behalf of the organization iv. Connecting guests and visitors with their hosts in an organization v. Taking records of visitors, such as name, time of visit, phone numbers, signature, the purpose of visits, and time of exit etc vi. Keeping of register of all calls etc.	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.
Types of Callers	The teacher states explain types of callers: **1. The Flirt:** Work isn't the only place you'll run into this type of caller, but it can be the most awkward place to have a run-in. The Flirt may or may not be interested in pursuing you romantically, but that doesn't mean they won't schmooze it up on the line. They're one of the most predictable types of callers, and therefore are easier to thwart in their inappropriate flirtation. **2. The Screamer:** This caller is seriously angry with your company and they show it by screaming at you throughout the call. It might seem like nothing will elicit a calm response from this caller, but approaching it in the right manner can have a positive effect. The Screamer might come off cool and logical at first and then launch into a loud tirade. They might start yelling from the moment you pick up the phone. They might include curse words and insults that you are simply not comfortable hearing. **3. The Lonely One:** The Lonely One calls with a weak question (What type of account do I have again?) and wants to stay on the call as long as possible. That's because the business of their original call isn't really important to them–they simply	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.

	wanted to hear another human being's voice. On the bright side, they knew that calling your company would result in them being connected to a living, breathing customer service specialist (good for your company!). **4. The Rambler:** Seemingly innocent at first, The Rambler can be a deceptively dangerous type of caller. They funnel your time (and time=money) away by tying up the line for longer than necessary. The Rambler can get personal–telling you about his or her life, hardships, family, and friendships. Or, The Rambler can be all business, asking tons of questions about your product or service, or asking the same questions over and over again. The thing about The Rambler is, they're a lot like The Lonely One. They want someone to talk to, and may not have anyone to talk to close by. **5. The Tease:** They call, they act like they want your product or service, and they do a wonderful job of appearing interested. They say "Ooh" and "Aah" at the right moments and allow you to run through an entire sales pitch before they flatly or indifferently say, "Nah." What? But you seemed so interested in the 5-year warranty! Have you completely forgotten how you agreed that your current provider just isn't cutting it? Why are you turning us down now? We don't really know what this caller is thinking. Were they interested in the beginning, and the interest waned as you gave them more information? Were they a secret spy sent from another company to harvest your pricing and customer service information? Was it something you said?		
Screening caller	The teacher explains screening caller and states its benefits: **Screening caller and its benefits** Screening callers give complete control over who can reach you by phone. Accept, decline, or block specific numbers and send others directly to voicemail. Work days are busy enough without having to deal with nuisance or untimely callers. **Phone caller screening:** • When a call comes in, caller ID* details appear on your phone's display,	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the	Lecture note and whiteboard.

	informing you who is on the line. You now have the choice to pick up the call, decline it, or send it directly to voicemail. • If you have phone numbers or people you never want to talk to, you can block their calls from ever connecting with you. Call blocking can be an effective option for reducing telemarketing calls. **Benefits of screening calls:** • Call screening options let you identify callers and choose your response. • Caller ID information displays before the incoming call ever connect, giving you some reference to decide how you want to respond to the call. You can answer it, decline it, or send it directly to voicemail. • Configure your account to have your desk phone prompt callers to announce their names before the call connects as an extra level of screening, so you know exactly who is on the line as well as which business they're calling from. • Configure your desk phone to hear which department or extension is calling, so you can decide how to respond. • Too busy to take a call from an important contact? Respond quickly with prepared text-to-speech messages or type a custom message from your Ring Central for Desktop to your caller.	subject matter. (iv) Ask questions on the aspects they do not understand.	
Handling and receiving visitors	The teacher states procedures for handling and receiving visitors: Reception is an art of receiving people who visit the organization, and therefore should have a procedure of making it polite and official. Generally, the following measures have been suggested on how to relate with visitors: i. Take the time to talk to the visitor ii. Always put yourself in the visitor's place, if you were the one visiting an organization, how would you want to be treated? Then, treat your visitor the way and manner you want to be treated. iii. Treat your visitors with utmost respect iv. Communicate and speak confidently with your visitors	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.

	v. Don't keep customers too long before you attend to them vi. Treat your visitors with care and caution vii. Greet with a smile viii. Find out the visitor's requirements (if not stated) **ix.** Check visitor's name and whether an appointment has been made or check appointment list. ("May I know your name please?" "Do you have an appointment with Mr. Boss").		
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (iv) Define Receptionist (v) State and briefly explain the duties of a receptionist (vi) List and explain types of callers (iv) Identify steps to apply in screening and putting calls on check (v) State the benefits of screening callers (vi) Enumerate applicable procedure in handling and receiving visitors	The students respond to the evaluation questions.	
Summary	The teacher summarises the lesson by rounding up the class and reiterating on areas not properly answered by students.	Students' listen and look forward to the next lesson.	

LESSON PLAN

CONTROL GROUP
Week: 3rd
Class: NCE 3
Subject: Office Technology and Management Education
Topic: Meeting: Duties, procedures, and terms used in meeting
Duration: 2 hours
Learning Objectives: By the end of the lesson, the students should be able to:

(vii) Define and explain the conceptual meaning of meeting
(viii) State the duties of secretary before meeting
(ix) State the duties of secretary during the meeting
(x) State the duties of secretary after meeting
(xi) Mention and explain procedures to apply in a standard meeting
(xii) State the terminologies used in meeting

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson by asking the students to (i) define receptionist (ii) state and explain the duties of a receptionist (iii) state and explain types of callers Teacher after listening to different opinions writes the new topic on the board.	The students answer, ask questions and jot down fact on their notebook. The teacher can now write down the topic on the chalkboard	Lecture note and whiteboard.
Meaning of Meeting	The teacher defines and explains the meaning of meeting: A meeting in its ordinary sense means the coming together of some people appointed, selected or elected to carry out the certain assignment for the benefit of those who appointed or selected them. Meetings form a major part of communication between the staff and management of the organization. A meeting must consist of at least two (2) persons. The involvement of secretaries at meetings is very essential as secretaries play major roles in the conduct of any meeting. The meeting is also defined as the coming together of a number of persons at a certain time and place; especially for a discussion.	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.
Secretary's duties before,	The teacher states the duties of secretary before, during and after meeting: **Before the Meeting**	The students: (i) listen and jot down points	Lecture note and whiteboard.

during and after the meeting.	The duties of the secretary before the meeting include: i. Consulting with the chairman on the order of business for the meeting, and the way in which it should be dealt with on the agenda. Decide what business requires discussion and what required a decision by the management committee ii. Ensuring that the notice of the meeting is given, that suitable accommodating is arranged and confirmed, and that copies of the agenda are prepared. iii. Circulating to all members (a) any papers to be discussed at the upcoming meeting and (b) a copy of the agenda, minutes of the previous meeting, and iv. Making sure that any report or information requested at the last meeting is available or that there is a good reason if it is not. **During the Meeting** The following are the duties of the secretary during the meeting i. Arrive in good time before the meeting with the minutes and with all the relevant correspondence and business matters for that meeting, in good order. Record the names of those who are present, and convey and record apologies received from those who are absent. ii. Read the minutes of the previous meeting and if they are approved, obtain the chairman's signature on them iii. Report on the action or matters arising from the previous minutes. Read any important correspondence that has been received. iv. Unless there is a minutes secretary, take note of the meeting, recording the key points and making sure that all decisions and proposals are recorded, as well as the name of the person or group responsible for carrying them out. Make sure action points are clear, and v. Make sure that the chairman is supplied with all the necessary information for items on the agenda, and remind the chairman if an item has been overlooked. **After the Meeting** The duties of secretary after the meeting include:	from the instructor's explanation. (ii) participate in the discussions. (iii) contribute their own ideas about the subject matter. (iv) ask questions on the aspects they do not understand.	

	i. Prepare a draft of the minutes (unless there is a minutes secretary) and consult the chairman and most senior staff member (where relevant) for approval. ii. Send a reminder notice of each decision requiring action to the relevant person; this can be done by telephone, or by an ‘’action list’’ with the relevant action for each person duly marked; and iii. Promptly send all correspondence as decided by the management committee.		
Meeting Procedures	The teacher explains meeting procedures: All formal meetings of the association must be properly convened in accordance with the association’s rules. All members must be notified of: 1. what type of meeting is being held; 2. the place, date and time of the meeting; and 3. the business to be considered at the meeting, including the full text of all motions that will be put to members at the meeting. When the meeting has commenced, it is important to first establish that there is a quorum to satisfy the quorum requirements in the association's rules. If there are not enough members present at the meeting, it will be invalid and any motions passed may not be effective. If there is a quorum, then all voting and passing of resolutions must be carried out in accordance with the rules and recorded accurately in the minutes. Incorporated associations are intended to be run in a democratic manner. The way in which meetings are conducted can have a major effect on members’ perceptions of whether their association is democratic.	The students: (i) listen and jot down points from the instructor’s explanation. (ii) participate in the discussions. (iii) contribute their own ideas about the subject matter. (iv) ask questions on the aspects they do not understand.	Lecture note and whiteboard.
Step IV: Terms used in meeting	The teacher states and explains terms used in the meeting: The following are some meeting terminologies. **Attendance Register:** This is a book containing the names of members who attended a meeting. It is usually placed at the entrance for members to sign when they arrive **Adjournment:** This is a motion to bring a meeting to a conclusion or postpone a meeting and to reconvene at a later date. **Agenda:** This is the list of things, to be	The students: (i) listen and jot down points from the instructor’s explanation. (ii) participate in the discussions. (iii) contribute their own ideas about the subject matter.	Lecture note and whiteboard.

	done at a meeting. **Amendment:** This is a proposal which seeks to amend a motion already put to the members. It may add or delete words. And must be proposed, seconded and put to the meeting. **Ballot:** This is a method of voting used when secrecy is necessary **Minutes:** This is a written record of the business completed at a meeting **Quorum:** This is the minimum number of people that must be present to constitute a meeting. **Apologies:** These are excuses given in advance for inability to attend a meeting. **Unanimous:** It means without any opposition – joint agreement **Consensus:** This means an agreement by general consent rather than by voting. **Convene:** To call for a meeting **Proxy:** This is when someone who is not a member represents another person at a meeting **Resolution:** Motion passed **Seconder:** One who supports the person who moves the motion for adoption or adjournment	(iv) ask questions on the aspects they do not understand.	
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (viii) Define meeting (ix) State the duties of secretary before meeting (x) State the duties of secretary during the meeting (xi) State the duties of secretary after meeting (xii) Give a brief explanation on meeting procedure (xiii) Mention and explain procedures to apply in a standard meeting (xiv) State the terminologies used in meeting	The students respond to the evaluation questions.	
Summary	The teacher summarises the lesson by rounding up the class and reiterating on areas not properly answered by students.	Students' listen and look forward to the next lesson	

LESSON PLAN

CONTROL GROUP
Week: **4th**
Class: NCE 3
Subject: Office Technology and Management Education
Topic: Human Relation
Duration: 2 hours
Learning Objectives: By the end of the lesson, the students should be able to:

(iv) Define and explain the conceptual meaning of human relation
(v) State the effective human relations and good character to be applied on the job with boss and colleagues
(iii) State the inexcusable discourtesies which all employees (office staff) should avoid in relating with Boss
(iv) List the faults to be avoided by office workers or employees

CONTENT	TEACHERS ACTIVITIES	STUDENTS ACTIVITIES	INSTRUCTIONAL MATERIALS
Introduction to the lesson	The teacher introduces the lesson by asking the students to (i) state the duties of secretary before a meeting (ii) state the duties of secretary during a meeting (iii state the duties of secretary after a meeting. Teacher after listening to different response writes the new topic on the board.	The students answer, ask questions and jot down fact on their notebook. The teacher can now write down the topic on the chalkboard	Lecture note and whiteboard.
Meaning of human relation	The teacher defines and explains the meaning of human relation: The human relation is defined as the relationship between one person and another and also a group of persons or between individuals within a community. Good manners are just a way of showing other people that you have respect for them. As dressing code is important, so also a code of conduct is paramount at workplace, especially in the office, where most visitors and prospective customers of the organization approach. Good manners are very important in business premises (office) because a company can be undermined by a single thoughtless act by one of its employees. A spirit of courtesy is what matters most. Customary formalities can be empty and insincere unless they express naturally a feeling of goodwill.	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.

Human relation with Boss and Colleagues	The teacher defines and explains the meaning of human relation: The following are the expected human relation with boss and colleagues: (1) Do not make others feel unimportant by your actions (2) Use tact in dealing with your fellow workers (3) Do not make sarcastic remarks (4) Speak clearly and distinctly (5) Do not pry into other people's affairs (6) Do not monopolize conversations (7) Avoid pointing out other workers' little mistakes (8) Try to listen to your fellow workers (9) Avoid interrupting your co-workers' conversations (10) Avoid getting into arguments with your co-workers (11) Admit your mistakes (12) Avoid getting angry and 'blowing up' at work	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and white board.
State and explain the inexcusable discourtesies	The teacher states and explains the inexcusable discourtesies: The following are the inexcusable discourtesies to avoid in relating with the boss: (i) Failure to answer the telephone promptly. (ii) Delay in answering a call from their supervisors or superior. (iii) Insisting on finishing an unimportant task before attending to a caller or a visitor. (iv) Arriving late to work (v) Spending unusually long periods away from their desks unnecessarily. (vi) Grooming in public. (vii) Using slang to speak to colleagues, especially superiors and visitors. (viii) Discussing your employer's affairs, or the business of the company, with people outside the company. (ix) Wasting your listener's time by speaking indistinctly and making them ask for a repeat of what is said. (x) Talking too loud	The students: (i) Listen and jot down points from the instructor's explanation. (ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	Lecture note and whiteboard.
List and explain the faults to be avoided at work	The teacher lists and explains the faults to be avoided at work: The following are the faults to avoid to ensure good human relation between boss and other colleagues:	The students: (i) Listen and jot down points from the instructor's explanation.	Lecture note and whiteboard.

	(i) All employees should avoid talking in a loud voice either to others or over the telephone. (ii) All employees should avoid sighing audibly, snapping fingers or noisily tearing or throwing up papers when they make a mistake. (iii) Employees should avoid introducing their private lives into office conversations especially if they speak boastfully. (iv) Employees should endeavour not to borrow constantly from others such things as money, stationery or a dictionary. They are likely to become unpopular if they cultivate the habit of borrowing. (v) Employees should respect their co-worker's privacy. (vi) If an executive enters a subordinate's office, the subordinate should not greet him sitting down.	(ii) Participate in the discussions. (iii) Contribute their own ideas about the subject matter. (iv) Ask questions on the aspects they do not understand.	
Evaluation	The teacher evaluates the lesson by asking the students the following questions: (ii) Define and explain the conceptual meaning of human relation (ii) State the effective human relations and good character to be applied on the job with boss and colleagues (iii) State the inexcusable discourtesies (iv) List the faults to be avoided	The students answer the teacher's questions and ask the question where they need further explanation.	
Summary	The teacher summarises the lesson by rounding up the class and reiterating on areas not properly answered by students.	Students' listen since they had already jotted the lesson.	

APPENDIX IX

LETTER OF REQUEST FOR VALIDATION OF INSTRUMENT

Francis Uche Ukaike,
Department of Technology and
Vocational Education,
Faculty of Education,
Nnamdi Azikiwe University, Awka,
Anambra State, Nigeria.

19th May, 2017.

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Dear Sir/Madam,

REQUEST FOR VALIDATION OF INSTRUMENT

I am a PhD student of the above named University carrying out a study titled: "EFFECTS OF BLENDED LEARNING ON OFFICE TECHNOLOGY STUDENTS' ACADEMIC ACHIEVEMENT AND INTEREST IN COLLEGES OF EDUCATION IN SOUTH-WEST NIGERIA", I wish to solicit that you validate my achievement test instrument titled: Office Technology and Management Achievement Test (OTMAT)" the Office Technology Students' Interest Inventory (OTMII)**.**

Kindly assist to examine the clarity of statement, correctness of language, conciseness, appropriateness, relevance, and adequacy of information and ideas in the contents. I also request that you complete the validation form.

Attached herewith the title of the study, chapter one and chapter three and instrument. Thank you.

Yours faithfully,

Signed

Francis, Uche Ukaike
Researcher

APPENDIX X

List of Colleges of Education in South-West Nigeria

S/N	NAME OF INSTITUTION	LOCATION	TYPE
1.	Federal College of Education (Special), Oyo.	Oyo, Oyo State	Federal
2.	Tai Solarin College of Education, Ijebu-Ode.	Ijebu-Ode, Ogun State	State
3.	College of Education, Ikere-Ekiti	Ikere-Ekiti, Ekiti State	State
4.	Delar College of Education, Agodi Gate.	Agodi Gate, Ibadan	Private
5.	Federal College of Education, Abeokuta	Abeokuta, Ogun State	Federal
6.	Osun State College of Education, Ilesa	Ilesa, Osun State	State
7.	Adeniran Ogunsanya Coll. of Education	Otto/Ijanikin, Lagos State	State
8.	Emmanuel Alayande Coll. of Educ., Oyo	Oyo, Oyo State	State
9.	St. Augustine Coll. Of Educ. (Project Time).	Yaba, Lagos State	State
10.	Federal College of Education (Technical).	Akoka, Lagos State	Federal
11.	Adeyemi College of Education, Ondo	Ondo, Ondo State	Federal
12.	Ansar-Ud-Deen College of Education, Isolo	Oshodi, Isolo, Lagos State	Private
13.	Yewa Central College of Education, Ayetoro	Ayetoro, Ogun State	Private
14.	College of Education, Ila-Orangun,	Ila-Orangun, Osun State	State
15.	Michael Otedola Coll. Of Primary Education	Noforija-Epe, Lagos	State
16.	St. Augustine College of Education, Lagos	Akoka, Lagos	Private
17.	Muftau Olanihun College of Education, Ibadan	Ibadan	Private
18.	Corner Stone College of Education, Lagos	Unilag, Lagos	Private

Source: NCCE website, 2017

APPENDIX XI

THE BLUEPRINTITEM DISTRIBUTION TABLE

Domains / Questions	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Total
Topic 1	1	1	2	6		1	**11**
Topic 2		2	2	3	1	2	**10**
Topic 3	4	2	5	3	4	2	**20**
Topic 4	1	1	4	2	1		**9**
Total	**6**	**6**	**13**	**14**	**6**	**5**	**50**

APPENDIX XII

TABLE OF SPECIFICATION

S/N	BEHAVIOUR/CONTENT AREA	TOTAL NO. OF ITEMS	TYPE OF THINKING					
			A	B	C	D	E	F
1.	**The Secretary: Training and Qualification**	**11**						
(a)	Meaning of Secretary	1				1		
(b)	Training of Secretary	5		1		4		
(c)	Qualification of Secretary	1	1					
(d)	Identify the personal qualities of a secretary to apply at work	1			1			
(e)	Business Attributes of Secretary	1				1		
(f)	Functions of a Secretary	2			1			1
2.	**Receptionist**	**10**						
(a)	Meaning of Receptionist	1					1	
(b)	Duties of Receptionist	2		1		1		
(c)	Types of Callers	3			1	2		
(d)	Identify steps to apply in screening and putting calls on check	1		1				
(e)	Benefits of Screening Callers	2						2
(f)	Enumerate applicable procedure in handling and receiving visitors	1			1			
3.	**Meeting: Procedures and Terms used in meeting**	**20**						
(a)	Meaning of Meeting	1		1				
(b)	Duties of Secretary Before meeting	4	2	1				1
(c)	Duties of Secretary During the meeting	2			2			
(d)	Duties of Secretary After meeting	2			1			1
(e)	Terminologies used in Meeting	7	2		1	2	2	
(f)	Mention and explain procedures to apply in a standard meeting	4			1	1	2	
4.	**Human Relation**	**9**						
(a)	Meaning of Human Relation	3	1		1	1		
(b)	State the effective human relations and good character to be applied on the job	3			1	1	1	
(c)	Inexcusable Discourtesies Office Staff must avoid	2		1	1			
(d)	Fault to be avoided by Office Workers or Employees	1			1			
	TOTAL NO OF ITEMS	**50**	**6**	**6**	**13**	**14**	**6**	**5**

TYPE OF THINKING:

A. KNOWLEDGE - ability recall, list, describe, relate and locate information
B. COMPREHENSION - ability to explain, interpret, outline and distinguish information
C. APPLICATION - ability to apply, construct, show, use principles, procedures and methods to solve problems
D. ANALYSIS - ability to analyze, examine, compare, contrast, investigate, categorize, identify, and separate information
E. SYNTHESIS - ability to create, invent, compose, predict, design and imagine
F. EVALUATION - ability to judge, select, chose, debate, recommend assessing, determine and rate

APPENDIX XIII

STATISTICAL ANALYSIS

Group Statistics

	GENDER_EXPERIMENTAL	N	Mean	Std. Deviation	Std. Error Mean
EXPERIMENTAL GROUP PRE-TEST SCORES	MALE	15	46.73	12.145	3.136
	FEMALE	53	50.32	10.392	1.427

Group Statistics

	GENDER_EXPERIMENTAL	N	Mean	Std. Deviation	Std. Error Mean
EXPERIMENTAL GROUP POST-TEST SCORES	MALE	15	68.20	9.010	2.326
	FEMALE	53	68.98	14.548	1.998

Group Statistics

	GENDER CONTROL GROUP	N	Mean	Std. Deviation	Std. Error Mean
PRE-TEST CONTROL GROUP	MALE	11	48.73	8.162	2.461
	FEMALE	41	45.61	11.732	1.832

Group Statistics

	GENDER CONTROL GROUP	N	Mean	Std. Deviation	Std. Error Mean
POST-TEST CONTROL GROUP	MALE	11	57.27	7.115	2.145
	FEMALE	41	57.34	8.607	1.344

Group Statistics

	GROUP_PRE-TEST AND POST-TEST	N	Mean	Std. Deviation	Std. Error Mean
EXPERIMENTAL GROUP	PRE-TEST	68	49.53	10.811	1.311
	POST-TEST	68	68.81	13.466	1.633

Group Statistics

	GROUP PRE-TEST AND POST-TEST	N	Mean	Std. Deviation	Std. Error Mean
CONTROL GROUP	PRE-TEST	52	46.27	11.076	1.536
	POST-TEST	52	57.33	8.248	1.144

T-Test

Paired Samples Statistics

GROUP		Mean	N	Std. Deviation	Std. Error Mean
Blended Learning	PRE-TEST TREATMENT INVENTORY EXPERIMENTAL GROUP	85.16	68	8.655	1.050
	POST-TEST TREATMENT INVENTORY EXPERIMENTAL GROUP	89.91	68	7.958	.965
Lecture Method	BEFORE TREATMENT INVENTORY CONTROL GROUP	85.788	52	7.8098	1.0830
	AFTER TREATMENT INVENTORY_CONTROL_GROUP	88.77	52	8.793	1.219

Paired Samples Correlations

GROUP		N	Correlation	Sig.
Blended Learning	BEFORE TREATMENT INVENTORY EXPERIMENTAL & AFTER TREATMENT INVENTORY EXPERIMENTAL	68	.281	.020
Lecture Method	BEFORE TREATMENT INVENTORY CONTROL GROUP & AFTER TREATMENT INVENTORY CONTROL GROUP	52	-.035	.805

Group Statistics

	GENDER EXPERIMENT PRE INVENTORY	N	Mean	Std. Deviation	Std. Error Mean
PRE-TEST TREATMENT INVENTORY EXPERIMENTAL	MALE	15	83.67	8.050	2.079
	FEMALE	53	85.58	8.846	1.215

Group Statistics

	GENDER EXPERIMENT POST INVENTORY	N	Mean	Std. Deviation	Std. Error Mean
POST-TEST TREATMENT INVENTORY EXPERIMENTAL	**MALE**	15	90.67	6.399	1.652
	FEMALE	53	89.70	8.389	1.152

Group Statistics

	GENDER INTERESTINVENTORYCONTROL GROUP	N	Mean	Std. Deviation	Std. Error Mean
BEFORE TREATMENT INVENTORY CONTROL GROUP	**Male**	11	87.18	7.454	2.247
	Female	41	89.20	9.155	1.430

Group Statistics

	GENDER INTEREST INVENTORY CONTROL GROUP	N	Mean	Std. Deviation	Std. Error Mean
AFTER TREATMENT INVENTORY CONTROL GROUP	**MALE**	11	83.727	7.2538	2.1871
	FEMALE	41	86.341	7.9455	1.2409

Hypotheses 1, 2 and 3 -ANCOVA

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	11282.801[a]	4	2820.700	39.463	.000	
Intercept	4408.471	1	4408.471	61.677	.000	
Achievement_PRE	7390.916	1	7390.916	103.403	.000	
Treatment	2103.774	1	2103.774	29.433	.000	
GENDER	1.278	1	1.278	.018	.894	
Treatment * GENDER	85.828	1	85.828	1.201	.275	
Error	8219.866	115	71.477			
Total	508466.000	120				
Corrected Total	19502.667	119				

Pairwise Comparisons

Dependent Variable: Achievement

(I) METHOD	(J) METHOD	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
BLM	LM	10.291*	1.897	.000	6.534	14.049
LM	BLM	-10.291*	1.897	.000	-14.049	-6.534

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Pairwise Comparisons

Dependent Variable: Achievement

(I) GENDER	(J) GENDER	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
MALE	FEMALE	-.253	1.894	.894	-4.006	3.499
FEMALE	MALE	.253	1.894	.894	-3.499	4.006

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Hypothesis 4, 5 and 6 - ANCOVA

Tests of Between-Subjects Effects

Dependent Variable: Interest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	863.337[a]	4	215.834	3.550	.009	.110
Intercept	6236.236	1	6236.236	102.573	.000	.471
Interest_PRE	138.078	1	138.078	2.271	.135	.019
GENDER	96.958	1	96.958	1.595	.209	.014
METHOD	221.656	1	221.656	3.646	.059	.031
GENDER * METHOD	75.182	1	75.182	1.237	.268	.011
Error	6991.788	115	60.798			
Total	939777.000	120				
Corrected Total	7855.125	119				

a. R Squared = .110 (Adjusted R Squared = .079)

Pairwise Comparisons

Dependent Variable: Interest

(I) GENDER	(J) GENDER	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
MALE	FEMALE	-2.236	1.771	.209	-5.743	1.271
FEMALE	MALE	2.236	1.771	.209	-1.271	5.743

Pairwise Comparisons

Dependent Variable: Interest

(I) METHOD	(J) METHOD	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
BLM	LM	3.478	1.822	.059	-.130	7.086
LM	BLM	-3.478	1.822	.059	-7.086	.130

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Dependent Variable: PRE_TEST_SCORE_EXPERIMENTAL_AND_CONTROL

LSD

GENDER	(J) GENDER_BOTH_EXPERIMENTAL_AND_CONTROL	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
MALE EXP GROUP	FEMALE EXP GROUP	-3.59	3.196	.264	-9.92	2.74
	MALE CONTROL GROUP	-1.99	4.338	.647	-10.59	6.60
	FEMALE CONTROL GROUP	1.12	3.298	.734	-5.41	7.65
FEMALE EXP GROUP	MALE EXP GROUP	3.59	3.196	.264	-2.74	9.92
	MALE CONTROL GROUP	1.59	3.621	.661	-5.58	8.76
	FEMALE CONTROL GROUP	4.71*	2.273	.040	.21	9.21
MALE CONTROL GROUP	MALE EXP GROUP	1.99	4.338	.647	-6.60	10.59
	FEMALE EXP GROUP	-1.59	3.621	.661	-8.76	5.58
	FEMALE CONTROL GROUP	3.12	3.711	.403	-4.23	10.47
FEMALE CONTROL GROUP	MALE EXP GROUP	-1.12	3.298	.734	-7.65	5.41
	FEMALE EXP GROUP	-4.71*	2.273	.040	-9.21	-.21
	MALE CONTROL GROUP	-3.12	3.711	.403	-10.47	4.23

Based on observed means.

The error term is Mean Square (Error) = 119.417.

*. The mean difference is significant at the 0.05 level.

c. Alpha = 0.05.

APPENDIX XIV

KUDER-RICHARDSON (KR 20) TESTAND ITEM ANALYSIS: ACHIEVEMENT TEST

	Person scores			***Item Statistics***							***Summary***
Person	ID	**Score**	**Item**	**P**	**Rpbis**	**Number correct**	**Number incorrect**	**Mean score correct**	**Mean score incorrect**	**Statistic**	**Value**
1	STD 1	21	1	0.61	0.67	11	7	28.27	17.14	*Test statistics*	
2	STD 2	14	2	0.72	0.24	13	5	25.15	20.80	Examinees:	18
3	STD 3	31	3	0.44	0.65	8	10	29.88	19.20	Items:	50
4	STD 4	16	4	0.56	0.57	10	8	28.10	18.75	Mean:	23.94
5	STD 5	9	5	0.11	0.48	2	16	35.00	22.56	SD:	8.36
6	STD 6	39	6	0.39	0.26	7	11	26.57	22.27	Variance:	69.82
7	STD 7	30	7	0.11	0.35	2	16	32.00	22.94	Min:	9
8	STD 8	19	8	0.28	0.28	5	13	27.60	22.54	Max:	39
9	STD 9	28	9	0.78	0.26	14	4	25.07	20.00	KR-20:	0.85
10	STD 10	18	10	0.56	0.35	10	8	26.50	20.75	SEM:	3.21
11	STD 11	36	11	0.61	0.30	11	7	25.91	20.86		
12	STD 12	16	12	0.50	0.50	9	9	28.00	19.89	*Item statistics*	
13	STD 13	32	13	0.61	0.35	11	7	26.18	20.43	Mean P:	0.48
14	STD 14	31	14	0.50	0.31	9	9	26.44	21.44	Min P:	0.11
15	STD 15	16	15	0.39	0.19	7	11	25.86	22.73	Max P:	0.78
16	STD 16	22	16	0.50	0.42	9	9	27.33	20.56	Mean Rpbis:	0.35
17	STD 17	26	17	0.33	0.63	6	12	31.17	20.33	Min Rpbis:	-0.06
18	STD 18	27	18	0.50	0.53	9	9	28.22	19.67	Max Rpbis:	0.67
19			19	0.61	0.35	11	7	26.18	20.43		
20			20	0.72	0.38	13	5	25.85	19.00		
21			21	0.44	0.47	8	10	28.25	20.50		
22			22	0.78	0.19	14	4	24.79	21.00		

23	23	0.44	0.17	8	10	25.50	22.70
24	24	0.17	0.19	3	15	27.33	23.27
25	25	0.39	0.64	7	11	30.43	19.82
26	26	0.61	0.21	11	7	25.27	21.86
27	27	0.17	0.41	3	15	31.33	22.47
28	28	0.28	0.36	5	13	28.60	22.15
29	29	0.17	0.43	3	15	31.67	22.40
30	30	0.72	0.30	13	5	25.46	20.00
31	31	0.50	0.21	9	9	25.67	22.22
32	32	0.61	0.44	11	7	26.82	19.43
33	33	0.56	-0.06	10	8	23.50	24.50
34	34	0.56	0.31	10	8	26.20	21.13
35	35	0.50	0.43	9	9	27.44	20.44
36	36	0.61	-0.01	11	7	23.91	24.00
37	37	0.44	0.50	8	10	28.50	20.30
38	38	0.56	0.38	10	8	26.70	20.50
39	39	0.44	-0.02	8	10	23.75	24.10
40	40	0.44	0.34	8	10	27.00	21.50
41	41	0.67	0.43	12	6	26.42	19.00
42	42	0.67	0.15	12	6	24.83	22.17
43	43	0.28	0.36	5	13	28.60	22.15
44	44	0.44	0.20	8	10	25.75	22.50
45	45	0.56	0.30	10	8	26.10	21.25
46	46	0.61	0.35	11	7	26.18	20.43
47	47	0.17	0.52	3	15	33.33	22.07
48	48	0.61	0.56	11	7	27.55	18.29
49	49	0.61	0.35	11	7	26.18	20.43
50	50	0.11	0.46	2	16	34.50	22.63

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Key	**C**	**D**	**D**	**C**	**C**	**C**	**A**	**A**	**B**	**D**	**D**	**A**	**A**	**D**	**C**	**B**
Option N																
A	2	2	3	4	11	8	2	5	1	4	3	9	11	9	6	2
B	2	2	3	3	4	1	6	4	14	1	2	2	3	0	5	9
C	11	1	4	10	2	7	4	0	1	2	2	2	4	0	7	5
D	3	13	8	1	1	2	6	8	1	10	11	5	0	9	0	2
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Option P																
A	0.11	0.11	0.17	0.22	0.61	0.44	0.11	0.28	0.06	0.22	0.17	0.50	0.61	0.50	0.33	0.11
B	0.11	0.11	0.17	0.17	0.22	0.06	0.33	0.22	0.78	0.06	0.11	0.11	0.17	0.00	0.28	0.50
C	0.61	0.06	0.22	0.56	0.11	0.39	0.22	0.00	0.06	0.11	0.11	0.11	0.22	0.00	0.39	0.28
D	0.17	0.72	0.44	0.06	0.06	0.11	0.33	0.44	0.06	0.56	0.61	0.28	0.00	0.50	0.00	0.11
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Option Rpbis																
A	0.02	-0.13	-0.25	-0.05	-0.26	-0.21	0.35	0.28	0.12	-0.47	-0.29	0.50	0.35	-0.31	0.05	-0.30
B	-0.39	0.11	-0.05	-0.57	0.04	-0.06	0.00	-0.33	0.26	-0.06	-0.43	-0.04	-0.49	#####	-0.26	0.42
C	0.67	-0.45	-0.51	0.57	0.48	0.26	0.09	#####	0.09	-0.02	0.31	-0.39	0.04	#####	0.19	-0.07
D	-0.57	0.24	0.65	-0.24	-0.18	-0.02	-0.31	-0.06	-0.45	0.35	0.30	-0.26	#####	0.31	#####	-0.26
E	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
D	D	A	C	A	A	D	B	A	A	D	D	B	A	C	B	A
6	7	11	2	8	14	1	3	7	11	15	5	4	13	5	0	10
3	0	1	1	1	1	7	3	3	6	0	4	3	2	3	11	2
3	2	4	13	5	2	2	8	5	1	0	4	2	3	9	0	2
6	9	2	2	4	1	8	4	3	0	3	5	9	0	1	7	4
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.33	0.39	0.61	0.11	0.44	0.78	0.06	0.17	0.39	0.61	0.83	0.28	0.22	0.72	0.28	0.00	0.56
0.17	0.00	0.06	0.06	0.06	0.06	0.39	0.17	0.17	0.33	0.00	0.22	0.17	0.11	0.17	0.61	0.11
0.17	0.11	0.22	0.72	0.28	0.11	0.11	0.44	0.28	0.06	0.00	0.22	0.11	0.17	0.50	0.00	0.11
0.33	0.50	0.11	0.11	0.22	0.06	0.44	0.22	0.17	0.00	0.17	0.28	0.50	0.00	0.06	0.39	0.22
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-0.37	-0.42	0.35	-0.02	0.47	0.19	-0.24	-0.07	0.64	0.21	-0.41	-0.12	-0.18	0.30	-0.32	#####	-0.06
-0.27	#####	0.09	-0.24	-0.45	-0.24	-0.11	0.19	-0.16	-0.10	#####	0.18	0.43	-0.08	0.13	0.44	-0.26
-0.05	-0.19	-0.13	0.38	-0.26	0.02	0.07	-0.12	-0.30	-0.24	#####	-0.44	-0.24	-0.29	0.21	#####	0.09
0.63	0.53	-0.43	-0.35	-0.05	-0.15	0.17	0.04	-0.31	#####	0.41	0.36	-0.02	#####	-0.06	-0.44	0.20
#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
C	D	D	A	C	B	A	B	B	C	A	A	B	B	C	B	A
7	3	3	8	4	5	8	3	1	6	8	10	4	11	3	1	2
0	3	3	3	1	8	3	12	12	3	3	4	11	3	2	11	3
10	3	1	5	10	3	4	1	2	5	6	4	2	4	11	2	1
1	9	11	2	3	2	3	2	3	4	1	0	1	0	2	4	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.39	0.17	0.17	0.44	0.22	0.28	0.44	0.17	0.06	0.33	0.44	0.56	0.22	0.61	0.17	0.06	0.11
0.00	0.17	0.17	0.17	0.06	0.44	0.17	0.67	0.67	0.17	0.17	0.22	0.61	0.17	0.11	0.61	0.17
0.56	0.17	0.06	0.28	0.56	0.17	0.22	0.06	0.11	0.28	0.33	0.22	0.11	0.22	0.61	0.11	0.06
0.06	0.50	0.61	0.11	0.17	0.11	0.17	0.11	0.17	0.22	0.06	0.00	0.06	0.00	0.11	0.22	0.67
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-0.11	-0.14	-0.29	0.50	-0.11	0.17	0.34	-0.11	-0.30	-0.20	0.20	0.30	-0.42	-0.57	-0.47	0.45	0.46
#####	-0.53	0.48	-0.07	-0.09	-0.02	-0.03	0.43	0.15	-0.24	0.19	0.25	0.35	0.52	-0.06	0.35	-0.57
0.31	0.09	-0.30	-0.38	0.38	0.11	-0.08	-0.24	-0.43	0.36	-0.39	-0.61	0.07	0.20	0.56	-0.39	0.12
-0.45	0.43	-0.01	-0.17	-0.33	-0.35	-0.33	-0.35	0.35	0.05	0.06	#####	-0.06	#####	-0.24	-0.36	0.08
#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

APPENDIX XV

RESULT OF RELIABILITY TEST: INTEREST INVENTORY

Case Processing Summary

		N	%
Cases	Valid	18	100.0
	Excluded	0	00.0
	Total	18	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.896	30

APPENDIX XVI

BLENDED LEARNING MODEL

FACE TO FACE LEARNING

ONLINE LEARNING

BLENDED LEARNING

APPENDIX XVII

Experimental Procedures

Face-to-Face physical presence with teacher and students

1. classroom.google.com
2. Join a Class
3. Stream
4. Open
5. Turn In

Students 5 Steps to Google Classroom

APPENDIX XVIII

DWINDLING ACADEMIC ACHIEVEMENT

Academic Session	Semester	Level	Pass Level
2012/2013	1st Semester	NCE I	**50.34%**
2012/2013	2nd Semester	NCE I	**22.94%**
2012/2013	1st Semester	NCE II	**31.04%**
2012/2013	2nd Semester	NCE II	**25.69%**
2014/2015	1st Semester	NCE I	**56.25%**
2014/2015	2nd Semester	NCE I	**37.72%**
2014/2015	1st Semester	NCE II	**15.90%**
2014/2015	2nd Semester	NCE II	**28.97%**
2015/2016	1st Semester	NCE I	**42.18%**
2015/2016	2nd Semester	NCE I	**0.26%**
2015/2016	1st Semester	NCE II	**12.44%**
2015/2016	2nd Semester	NCE II	**36.52%**
2016/2017	1st Semester	NCE I	**44.59%**
2015/2016	2nd Semester	NCE I	**32.48%**
2015/2016	1st Semester	NCE II	**35.11%**
2015/2016	2nd Semester	NCE II	**36.92%**

(Adeyemi College of Education, Dept. of Bus. Education, 2018)

BED 127 (KEYBOARDING II) FIVE YEARS RESULT SUMMARY

SESSION	SEMESTER	NO OF STUDENTS	NO OF STUDENTS IN GRADE					
			A	B	C	D	E	F
2012/2013	SECOND	380	49	45	51	68	75	92
2013/2014	SECOND	-						
2014/2015	SECOND	417	52	64	54	88	95	64
2015/2016	SECOND	166	10	13	32	51	33	27
2016/2017	SECOND	155	14	12	30	47	29	23
Percentage (%)			38.1%			61.9%		

Thanks

Orifa, R.A.O.
Head,
Department of Business Education

BED 127 (KEYBOARDING II) FIVE YEARS RESULT SUMMARY

SESSION	SEMESTER	NO OF STUDENTS	NO OF STUDENTS IN GRADE					
			A	B	C	D	E	F
2012/2013	SECOND	440	48	52	77	84	92	87
2013/2014	SECOND	441	42	50	75	84	97	93
2014/2015	SECOND	305	22	31	14	78	84	76
2015/2016	SECOND	-						
2016/2017	SECOND	260	21	24	45	53	69	48
Percentage (%)			34.6%			65.4%		

Thanks

OSUN STATE COLLEGE OF EDUCATION
ESA
DEPT. OF BUSINESS EDUCATION
Date.....
H.O.D

Mr. Ajayi S.O.
Head,
Department of Business Education

FEDERAL COLLEGE OF EDUCATION (SPECIAL) OYO STATE

DEPARTMENT OF BUSINESS EDUCATION,
OYO, IBADAN STATE

BED 127 (KEYBOARDING II) FIVE YEARS RESULT SUMMARY

SESSION	SEMESTER	NO OF STUDENTS	NO OF STUDENTS IN GRADE					
			A	B	C	D	E	F
2012/2013	SECOND	225	22	33	40	44	38	48
2013/2014	SECOND	300	23	37	53	54	38	95
2014/2015	SECOND	171	10	15	25	28	50	43
2015/2016	SECOND	240	21	22	32	23	45	97
2016/2017	SECOND	232	17	24	33	40	47	71
Percentage (%)		1168	407			761		
			34.8%			65.2%		

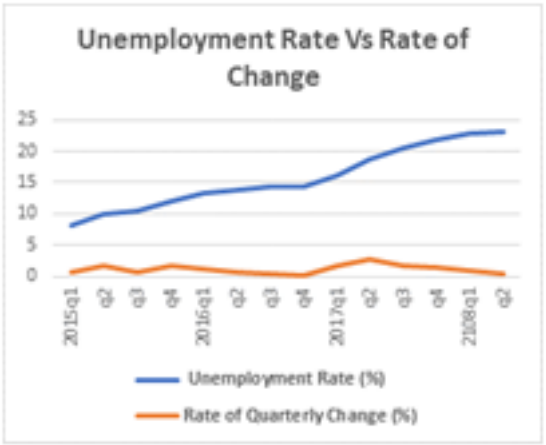
Thanks

Dr Babalola, Y.A.
Head,
Department of Busine

APPENDIX XIX

UNEMPLOYMENT RATE

Period	Unemployment Rate (%)	Rate of Quarterly Change (%)
2015q1	7.54	
q2	8.19	0.66
q3	9.90	1.71
q4	10.44	0.54
2016q1	12.09	1.64
q2	13.32	1.24
q3	13.88	0.56
q4	14.23	0.35
2017q1	14.44	0.21
q2	16.18	1.74
q3	18.80	2.62
q4	20.42	1.62
2108q1	21.83	1.41
q2	22.73	0.90
q3	23.13	0.40



National Bureau of Statistics, 2018