**EFFECTS OF DRILL AND PRACTICE ON THE ACADEMIC ACHIEVEMENT OF STUDENTS IN ENGLISH LANGUAGE IN JUNIOR SECONDARY SCHOOL IN LAGOS STATE**

**ABSTRACT**

This study examines The Effect of Drill and Practice on the Academic Achievement of Students in English Language in Junior Secondary Schools in Lagos State. *The purpose of this research was to* determine the achievement scores of students taught English Language with drill and practice those taught using conventional teaching methods. and Determine the interest of students taught English Language with drill and practice those taught using conventional teaching methods and compare the achievement scores of boys and girls taught English Language using drill and practice; compare the interest scores of boys and girls taught English Language using drill and practice f*our questions and hypotheses were stated for the study,* the descriptive research survey was used to assess the respondents’ opinions using the questionnaire and the sampling technique. In this study, 120 (one hundred and twenty) respondents were selected and used as samples to represent the population of the study. Four (4) null hypotheses were formulated and tested in this study. Also, the SPSS Statistics tool output of the one-way ANCOVA was used to test and analyses the null hypotheses at 0.05 level of significance.*Based on the findings from the study the following conclusions were drawn that* Application of computer technology to all aspects of human endeavour coupled with the need to create student-centred classroom to engage learners in their leaning tasks, improve learners’ interest and consequently achievement in the school subjects has necessitated the use of computer in teaching. This study has found out that Drill and practice improved students’ achievement, retention and interest in English language than the conventional teaching methods. *Recommendations were made on the basis of the findings of this study which include the following:* More attention should be accorded computer literacy and operation in the secondary schools and relevant computer assisted instructional packages should be developed for use within the Nigerian school systems. In addition, Nigerian public schools should be equipped with necessary ICT facilities to leverage the potentials of ICT in Nigerian schools and teachers of English Language in Lagos State should adopt the use of the Drill and practice to teach English Language.

**TABLE OF CONTENTS**

Title Page i

Certification ii

Abstract iii

Table of Contents iv

**CHAPTER ONE: INTRODUCTION**

Background of Study 1

Statement of the Problem 5

Purpose of the Study 6

Research Questions 6

Research Hypotheses 7

Significance of the Study 7

Definition of Terms 9

**CHAPTER TWO: REVIEW OF RELATED LITERATURE**

Conceptual Framework 11

Review of Related Empirical Studies 35

Summary of Review of Related Literature 38

**CHAPTER THREE: RESEARCH METHODOLOGY**

Introduction 40

Research Design 40

Area of the Study 40

Population of the Study 40

Sample and Sampling Techniques 41

Research Instrument 41

Method of Data Collection 41

Data Analysis 42

**CHAPTER FOUR: DATA ANALYSES AND RESULTS**

Introduction 43

Descriptive Analysis of Respondents 43

Hypotheses Testing 47

Summary of Findings 49

Discussion of Finding 50

**CHAPTER FIVE: DISCUSSION OF FINDINGS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

Introduction 54

Summary of the Study 54

Conclusions 55

Recommendations 56

Implications of the Findings 57

Suggestions for Further Research 58

**REFERENCES 58**

**APPENDICES 61**

**CHAPTER ONE**

**INTRODUCTION**

**Background of Study:**

Computer Assisted Instruction (CAI) refers to use of computer as a tool in teaching and learning. Widmayer & Alayne (2007) defined Computer Assisted Instruction (CAI) as an interactive instructional procedure whereby a computer is utilized to exhibit the instructional material and monitor the learning that takes place. With CAI the students receive feedback from the computer and maintain some degree of control (Oyenuga, 2008). Some of the computer assisted instruction methods include simulation, animation, drill and practice. The CAI instruction when used in combination with drill provides instruction in such a way that each drills lesson has a series of frame or branches. How? One aspect of student learning that is potentially linked to student performance in any course is the issue of students’ access to drills solutions. No prior study has addressed this issue. Yet, this is an important research question as the decision to release or withhold drills solutions has a wide range of implications for students and instructors (Preciado, 2009). Drills allow for learning in a close, comfortable environment with the same tutor over time. In a study by Schmeck, (2008) it was found that smaller class sizes at school significantly raised final grades. This idea has been extended to the drill system at the secondary school level. Small groups are successful in providing a safe space to ask the questions that one is unable to ask during crowded classroom. Drill also offer the personal attention one may require for learning to take place. In recent times, the practice of teaching students in small groups at schools has emanated from the ancient practice of philosopher-tutors (Steward & Aiken, 2009). The educational principle of these philosopher-tutors was to recognize the individual differences of students and focus on developing an individual student’s thinking process (Steward et al., 2009). In the 20th century, this form of tutoring has been adopted for the common form of schooling with some modification. Perhaps due to economies of scale, students are taught in small groups rather than individually. Steward et al. (2009) summarized the benefits of tutoring as a form of education. These include the personal attention given to students, providing continuous feedback on student progress, mentoring students on learning how to learn, and using students’ academic strengths to overcome weaknesses. Research suggests that tutoring results in positive outcomes in terms of measures of academic achievement, measures of self-esteem, and intrinsic interest in the subject (Strong & Smith, 2011). In the current twin pedagogical structure of teaching followed by drills; drills play a pivotal role in reinforcing and extending the knowledge disseminated to students via teaching. Typically, students attend classes for a first exposure to the course materials and drills provide a platform for consolidating student learning through more interactive discussion and problem-solving activities.

Teaching, especially in large classrooms, is typically a one-way communication from the teacher to the students. In contrast, drills provide the appropriate forum for a two-way communication between the instructor and students. As drills permit interactive discussion on course topics via drills questions and problem-solving activities, drills play a key role in consolidating students’ course-specific knowledge.

Further, in English teaching courses where student assessment comprises mainly closed-book examinations during and at the end of the term, questions on the examination may largely follow the format of drills questions. In such an environment, students would be keen to access drills solutions.

However, there are arguments both for and against releasing drills solutions. Drill provides generally new information to the students in much the same manner as a human teacher or tutor might.

According to Tella (2007) drills are based on the principles of programmed learning or instruction. Drill involves a sequence of tasks, exercises, or words repeated over and over until they can be performed faultlessly. Drills, drill and practice are interactive and help students remember the concepts they have been taught previously (Widmayer and Alayne, 2007). English Language learning strategies, such as the drilling technique will be able to help the limited learners in writing. At least by doing the drill and practice it will enable the students to write essays given by the teachers because they are familiar with the formats especially in terms of descriptive essays. This type of essays is one of the easiest topics to do by the learners because they will describe the person, place or things with the adjectives they have learned to be used in their descriptive essays. It has become essential for learners at all schooling levels to write and understand their written texts or what they have written.

Actually most teachers have implemented this technique without realizing it they are using this technique in their teaching and learning process. According to Blasingame & Bushman (2007), Yenice (2013), Slesnick (2008) as cited in Wilder & Mongillo (2007): Basically without realizing it, most of the language teachers are using this drilling technique or this strategy to help their low proficiency students in passing their English papers. They have used this technique in years of teaching the students but did not know the specific terms to describe it.

Usually the English language teachers would use this technique in teaching writing because in most of the time and throughout the years the low proficiency students had to be drilled to make sure that they would be able to write a few sentences during their examinations. As Heward points out, drill and practice can be conducted in ways that render it pointless and a waste of time. Research has shown, however, that when properly conducted, drill and practice is a consistently effective teaching method. For example, a recent meta-analysis of 85 academic intervention studies with students with learning disabilities found that regardless of the practical or theoretical orientation of the study, the largest effect sizes were obtained by interventions that included systematic drill, repetition, practice, and review (Blasingame & Bushman, 2007). Drills when used in combination with practice provides instruction in such a way that each drills lesson has a series of frame or branches. In addition, the use of drills and practice for instruction brings with it several benefits as a teaching/learning medium. These include self-paced learning, self-directed learning, the exercising of various senses and the ability to represent content in a variety of media. In a study, Momoh-olle (2009) found that male generally outperformed girls in retention test in English while Ngwoke (2008) found a similar result in Linguistic. Students’ interest, achievement and retention in any learning activity are sustained by the active involvement of the learner in all aspects of the learning process. Ogwo and Oranu, (2007) and Ngwoke (2008) emphasized that unless the teacher stimulates students’ interest in learning, students’ achievement will be minimal. Hence, it is essential that English teachers use teaching method which ensures students’ active involvement in learning and provide suitable learning environment to improve achievement and stimulate interest of students in English.

Drills is defined as a form of specialized learning with qualified coaching, the use of micro-computers for learning drills. Or with any other explanation that the drills is learning guidance in the form of referrals, assistance, guidance, and motivation for students to learn efficiently and effectively. Providing assistance means helping students to learn the subject matter.

According to Rusman (2011) learning drills are a way of learning to train students on the lesson material that has been given. Drills will be implanted through certain habits in the form of exercise. With continuous practice, it will be embedded and then it will become a habit. In addition, in order to inculcate the habit, these drills can also increase the speed, accuracy, completeness of doing things and can also be used as a way to repeat the training material that has been presented; it can also increase the speed.

As an instructional strategy, drill & practice is familiar to all educators. It "promotes the acquisition of knowledge or skill through repetitive practice." It refers to small tasks such as the memorization of spelling or vocabulary words. Drill-and-practice, like memorization, involves repetition of specific skills, such as addition and subtraction, or spelling. To be meaningful to learners, the skills built through drill-and-practice should become the building blocks for more meaningful learning.

**Statement of the Problem:**

Learning outcome of every student majorly depends on the type of teaching methods, teaching strategies, and instructional techniques or approaches employed by the teacher during instruction. Traditional teaching methods such as lecture, demonstration and field trip adopted for teaching English Language in Junior secondary school by teachers are often referred to as conventional teaching method termed to be teacher centered instead of students centered. This method teaching technical subjects discouraged creativity and disallowed students from thinking beyond what is presented to them by their teachers. The students are reduced to passive learners and as a result become apathetic and repulsive to learning. Lack of application of effective methodology for teaching technical subjects as major reason for low academic achievements of students in junior secondary schools. Traditional method of teaching do not adequately equip teachers with contemporary views of students’ intelligences and their vast learning capabilities. Hence, this traditional teaching methods used by these teachers may be responsible for the low academic achievement in English language. Therefore, to find solution to these problems, there is need to determine the effect Computer drill and practice alternative teaching method on the academic performance of students in English Language in junior secondary school.

**Purpose of the Study** :

The purpose of this study is to determine the effects of drill and practice on the academic performance of students in English language in junior secondary school in Lagos State. Specifically, the study will seek to:

1. Determine the achievement scores of students taught English Language with drill and practice those taught using conventional teaching methods.

2. Determine the interest of students taught English Language with drill and practice those taught using conventional teaching methods.

3. Compare the achievement scores of boys and girls taught English Language using drill and practice.

4. Compare the interest scores of boys and girls taught English Language using drill and practice.

**Research Questions:**

The following research questions was formulated to guide this study:

1. What is the difference in the mean achievement scores of students taught with drill and practice compared with those taught using the conventional teaching methods?

2. What are the mean interest scores of students taught English language with drill and practice those taught using the conventional teaching methods?

3. What is the difference in the achievement scores of male student compared with female student when taught with drill and practice?

4. What are the mean scores of male and female taught English language using Computer Drills and practice the test for retention of learning?

**Research Hypotheses :**

The following null hypotheses was tested in the course of the study.

HO1: There is no significant difference between the mean achievement scores of students taught with drill and practice and compared with those taught using conventional teaching methods.

HO2: There is no significant interaction effect of treatments given to students by gender with respect to their mean scores in the English language achievement test.

HO3: There is no significant interaction effect of treatments given to students by gender with respect to their mean scores in English language interest inventory items.

HO4: There is no significant difference between the mean achievements scores of boys and girls taught English Language using Computer drill and practice.

**Significance of the Study** :

The benefits that occur from this study are many, specifically,

**STUDENTS**: The findings of this study if found to have positive effect and implemented will also be of benefit to students’ participation and interest in the class room activities. There will be improvement in students’ achievements and interest through the use of drill and practice, command to achieve active engagement, frequent interaction, immediate feedback from work done and connection to real world of work. This in turn will enable students to pass their JSCE examinations in English Language.

**TEACHERS**: Teachers will benefit from the result of this study in that they will use the standardized instrument to evaluate the students, rather than the teacher-made test. English Language teachers’ work will become easier and interesting as they will be playing supervisory roles whereby student centered interactive instruction will be used to secure and sustain the attention of the students in learning English Language. The knowledge of drill and practice if found effective will help the teachers to improve their instructional delivery to bridge the gap in achievement, interest of boys and girls in English Language.

**MINISTRY OF EDUCATION**: Ministry of Education will benefit from the findings of this study. Effectiveness of drill and practice, will no doubt influence the decision of the Ministry of Education on the need to provide computers and laboratories in junior and senior secondary schools if found to have positive effect. Furthermore, findings will also sensitize the Ministry to organize conferences, workshops and seminars to train English Language teachers on the use of drill and practice to improve their instructional delivery.

**CURRICULUM DEVELOPERS**: The result will be of immense benefit to the English Language curriculum developers because they will find it valuable especially in the provision of empirical evidence on the effectiveness of drill and practice in the teaching of English Language.

**Definition of Terms**:

Drill: is a classroom technique used to practise new language. It involves the teacher modelling a word or a sentence and the learners repeating it.

Practice: is the act of rehearsing a behaviour over and over, or engaging in an activity again and again, for the purpose of improving or mastering it.

Teaching Methods: It refers to the general principle, pedagogy and management strategies used for classroom instruction.

Conventional Method: is concerned with the teacher being the controller of the learning environment. Power and responsibility are held by the teacher and they play the role of instructor (in the form of lectures) and decision maker (in regards to curriculum content and specific outcomes).

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

The review of related literature to this study is organized under the following subheadings:

**1. Conceptual Framework**

• Computer Assisted Instruction

• Computer Drill

• Conventional Teaching Methods in Secondary Schools

* Lecture Method
* Project Method
* Demonstration Method
* Field Trip

• Computer Technology use for Teaching and Students’ Achievement in

Learning.

• Achievement, Interest, and Gender.

• The Teaching of Basic Electronics in Secondary Schools.

• The Use of Computer Drill in the Teaching of English Language

**2. Review of Related Empirical Studies**

* Studies on the Combined effect of Computer Drill
* Instructional Package on students’ Achievement.
* Students’ Achievement, Interest in Learning.

**3. Summary of Review of Related Literature**

**Computer Assisted Instruction**

Computer Assisted Instruction (CAI) or Computer Aided Instruction (CAI) refers to the use of computer as a tool in teaching and learning. It includes drill and practice, simulations, instructional management, supplementary exercises, database management, word processing and other types of computer applications (Okundaye, 2007). According to Okundaye (2007) CAI may also refer to as an automated instructional technique in which computer is used to present an instructional programme to the learner through an interactive process on the computer. The students receive feedback from the computer and maintain some degree of control. CAI as a supplement to conventional teacher – directed instruction produces achievement effects superior to those obtained with conventional method alone. (Akudolu, 2008). Examples of CAI applications include guided drill practice exercises, computer visualization of complex objects, and computer – facilitated communication between students and teachers. The guided drill is a computer program that poses questions to students, returns feedback and selects additional questions based on the student’s responses. Recent guided drill systems incorporate the principles of education in addition to subject matter knowledge into the computer program. Some of the CAI tools, (such as word processors, spreadsheets and database) collect, organize, analyze and transmit information. They also facilitate communication among students, between students and instructor, and beyond the classroom to distant students, instructors and experts.

Computer Assisted Instruction (also called Computer Aided Instruction) is the use of computer and its accessories in providing learning experiences and self directed instructions to a learner using tutorial and simulation packages, with little or no assistance from instructors. In developed countries, the use of computer as a teaching tool has reached an advanced stage (Mudasiru and Adedeji, 2010). Drill and practice programs according to Okundaye (2007) are probably the most common and best known educational application of computer. He explained that just as it implies, students are assigned to teachers to see them for drill and practice in performing particular set of discrete skills. In tutorials, components are used to teach course materials that are designed to allow students to learn at their own pace and ability. Simulation packages provide tools for simulating (providing an animated situation) experiments that would otherwise be too costly and take too long to produce. While drill and practice programs can be used adequately for theoretical study, the simulation programs are most suited for practical experiments in sciences.

Computer Assisted Instructions (CAI) brings with it several potential benefits as a teaching/learning medium. These include learner controlled instruction, immediate knowledge of result, adaptability of instruction, revision and updating and self-pacing. With self-paced learning, learners can move as slowly or as quickly as they like through a program. According to Onasanya, Daramola and Asuquo (2008) CAI allows students to progress at their own speed of learning as they offer learners controlled instructions, provide prompt feedback to the learner, allow for adaptability of instructions (presentations mode and instructional content mode) using authoring systems, provides lessons with more than one purpose, random access facilities, and provides facilities for revisions and updating. With self-directed learning, learners can decide what they want to learn and in what order. Various studies (Entwistle, (2011); Schmeck (2008); Ford and Chen, (2007) have shown that when learners can learn in a way that suits them, improvements in the effectiveness of the learning process normally occurs.

Humans are multi-sensory animals. The more senses through which we receive information, the easier it is to remember. According to Fletcher (2010), people remember 20% of what they hear, 40% of what they see and hear and 75% of what they see, hear and do. The fact that the computer can exercise various senses and present information in a variety of media can enhance the learning process. Meskill & Mossop (2007) reported that computer assisted instruction encourage learning as it enhance students’ interaction with the learning environment which in turn help sustain students’ interest in learning and consequently improve students’ achievement and retention of learning.

**Presentation of Lectures with Computer Drill**

The following methods are used:

(1) Linear Lesson: Linear lesson in drill is a lesson with forward cycle branching. It also has backwards cycle branching.

(2) Jumping Lesson is a lesson that a student can jump or skip any par and select the section he/she wants to study.

(3) Branching lesson is a lesson that is arranged in branches. Any branch can be selected and studied at any time.

**Categories of Computer Tutorial and Drill**

• Single menu: This is a program that is single.

• Linear sequence menu: This is a program whose lesson is arranged in

linear sequence.

• Tree structure menu: This is a program whose lesson is illustrated using trees.

• Network menu: This is a program whose lessons are networked among users.

**Computer Drill**

Drill software differs from tutorial software in a key way. It helps students remember and utilize skills they have previously been taught, whereas a drill teaches new material. Students must be familiar with certain concepts prior to working drill programs in order to understand the content. The typical drill programs design includes four steps:

1. the computer screen presents the student with questions to respond to or problems to solve;

2. the student responds;

3. the computer informs the student whether the answer is correct; and

4. If the student is right, he or she is given another problem to solve, but if the student responds with a wrong answer, he or she will be corrected by the computer (Mudasiru and Adedeji 2010).

**Conventional Teaching Methods in Secondary Schools**

Okubote (2012) has stated that the traditional approach to teaching in schools involve the use of items such as chalkboard, chalks, posters and charts by instructors to disseminate information to the learners. The teaching session usually last for a period of 35 to 45 minutes, for a particular topic to be written on the chalkboard. The instructor illustrates with few examples before giving out assignments. Alo (2008) pointed out further that in this approach, the teacher has a one – to many relationships with the students. He is able to project his ideas in the best form known to him and he evaluates the students’ response from their facial expressions and attitudes. However, the traditional approach has some shortcomings, which cannot be overlooked. The dissemination of instruction in this approach is mostly through verbal medium and this can be affected by a number of communication flows. Instructions may be understood or misinterpreted as the case may be. Situ, (2009) in his view, highlighted that similarly, an instructor may not be patient enough to give out the information required in a step-by- step fashion. Rather than doing that, he is only concerned about covering the syllabus on time and this may have adverse effect on the learner. Okubote (2012) further stated in her work that since every learner has different learning paces, it will be difficult for the instructor to carry every person along thus the traditional approach will not allow learners learn at their own pace.

Teaching according to Akudolu (2014), is a deliberate effort by a mature or experienced person to impart information, knowledge, skills to an immature or less experienced person through a process that is morally and pedagogically acceptable.

Similarly, Moore, (2008) defined teaching as the action of a person imparting skills or knowledge or giving instruction. In the same vein, Clark and Star (2008) maintained that teaching is an attempt to assist students in acquiring or changing some skill, knowledge ideal, attitude or appreciation. Therefore, teaching involves the setting up of activities to enable somebody learn something which can improve the person’s knowledge, skills, attitudes and values. Thus, the aim of teaching is to facilitate learning. For teaching to facilitate learning, Akudolu (2008) emphasized that the content to be taught has to be worthwhile and the procedure has to be educationally acceptable for activity to be classified as teaching. In this context, teaching can therefore be defined as a systematic activity deliberately engaged in

by somebody to facilitate the learning of the intended worthwhile knowledge, skills and values by another person and getting necessary feedback.

Central to the process of teaching is the concept of effective teaching.

Effective teaching is one that produces demonstrable result in terms of cognitive, affective and psychomotor development of the students. Effective teaching depends on the teacher’s use of appropriate instructional methods and techniques (Cabrera and La Nasa, 2012). In vocational and technical education, teaching methods and techniques are aimed at developing in the learners, the ability to acquire the knowledge and skills useful for work. These methods and techniques can vary in depth and time, depending on the level of students and the materials available for instruction.

According to Nwachukwu (2007) the task of organizing for effective teaching is crucial in any educational setting. The crucial decisions at all instructional levels of the organization will be centered on such factors as what to teach, when to teach and how to teach it. These decisions are made by the teacher himself and a good insight and understanding of their decisions will assist the teacher greatly in developing a good plan for teaching.

At the classroom level Nwachukwu (2007) maintained that how to teach the selected elements depends on the teacher. In vocational and technical education, Nwachukwu pointed out that teaching methods and techniques aim at developing in the learner the ability to acquire the knowledge and skills useful for work.

Teaching methods are used by all teachers to present skills, knowledge and appreciations to the learners in the classroom and to engage learners in the tasks involved while teaching techniques are processes adopted by veteran teachers to inject variety, in their teaching, stimulate it and maintain the learners’ interest in it (Ogwo and Oranu, 2008; Ukoha and Enegwe, 2008). They maintained that instructional techniques are subsumed in teaching methods as ancillaries or adjuncts to ensure the effectiveness of the method. A comprehensive study of available literature in vocational and technical education reveal extensive listings of teaching methods as conceived and classified by various authors.

Conventional teaching methods relate to my study in that both teachers used the same lesson notes and evaluation questions. It is only the use of computer for the experimental group that makes the difference.

**The Lecture Method**

The lecture method involves a formal discourse or exposition on a subject matter in order to attain a stated instructional objective; the teacher does the talking while the learners listen and occasionally take notes (Ukoha & Eneogwe, 2008). According to Okoro (2009) in lecture method the teacher or some other knowledgeable person supplies information to the students. Awotua & Efebo (2012) explained that lecture method is a teaching method whereby the teacher transmits information (subject matter, content) verbally to the students. Sometimes, it involves writing on the chalkboard or using instructional materials. The students listen and take notes of facts that are considered important; sometimes the students are allowed to ask questions for clarification.

Lecture method according to Ukoha & Eneogwe (2008) encourages self study and research; the method is convenient for teaching large number of students at the same time, it is useful to cover a considerable amount of lesson content in a very short time. It is essential for setting out course objectives, providing explanations and analyzing relevant aspect of a course of study, and finally using the lecture method, the learners develop communication skills such as note taking, listening and summary writing. However, Ukoha & Eneogwe (2008) noted that lecture method is a further extension of the traditional view point that the teacher is an embodiment of knowledge. It is thus, the responsibility of the teacher to dish out or disseminate the knowledge to the learners who are supposedly ignorant and blank.

They maintained that lecture methods is one-way communication affair which appears autocratic and encourages students passivity; rote learning and is inappropriate for teaching and encouraging students to think for themselves. Nwachukwu (2007) contends that good teaching always provides for a two-way communication between the teacher and the students and for this reason other methods such as demonstration are more effective than the lecture method in many situations. However, Nwachukwu said that short talks and verbal explanations are common and necessary in all practical instruction.

Thus, lecture method is useful in vocational and technical education. Ericson (2008) explained that fact to be learned in connection with the work performed is often as important as the tool and processes involved in the performance.

According to Ericson, to tell facts to students in vocational and technical education may be the shortest way to the acquisition of such facts; and while the argument has been advanced that telling is not teaching, it offers at least opportunities for obtaining useful and essential facts at a minimum express of a time. Okoro (2009) in his own point of view noted that the lecture method has only limited use in vocational and technical education. Teachers should resist the temptation to give lengthening lecture since such lectures are usually dull and are incapable of stimulating and sustaining the interest of students.

**The Project Method**

The project method is also one of the methods which are predominantly used in teaching in the secondary schools. The project method at the same time is one of the standard teaching methods in vocational and technical education. It is a means by which students develop independence and responsibility, and practise social democratic modes of behaviour (Ericson, 2008). Project method of teaching is suitable for large group, small group and individual instruction (Okoro, 2009; Ukoha and Eneowe, 2008). Ukoha & Eneogwe, explained that the project method originated in the early twentieth century. It was greatly influenced by Dewey’s problem method of teaching and it is an original work of W.H Kill Patrick who advocated purposeful activity, problem solving and the needs and interest of the individual child in action, learning and conduct. The underlying principle of the method according to them is that learning takes place through direct contact with materials.

A project method according to Nwachukwu (2007) implies a practical problem, which a student and the teacher plan to execute. The planning and the executing must be concrete in nature. It should involve the design, arrangement of materials, availability of equipment and tools and a good environment for the activity. On the part of the teacher, he/she must have an excellent understanding of the individual after learning has taken place. The execution should meet the following objectives; to encourage the individual; to assist the individual and to direct the individual for specific changes. Similarly, Ukoha & Eneogwe (2008) stated that a project is a learning activity selected, planned, designed and executed by learners collectively or individually to clarify facts, acquire new knowledge, skills, appreciation and to solve identified problems under the teacher’s guidance and supervision. They asserted that whether group or individual project there must be a clearly stated purpose to be achieved by the group or individual. The effectiveness of any project depends on its purpose and usefulness. Knoll (2014) added that project has four phases; purpose, planning, executing and judging. The ideal progression is when all the four phases are initiated and completed by the students. Therefore, he maintained that the role of the teacher in providing guidance and direction to the students should not be completely eliminated. This is because it is true that students tend to exaggerate their power of execution and to select project that is beyond them.

**The Demonstration Method**

According to Ericson (2008), from the time vocational technical courses were introduced into the school subjects, the demonstration method has stood out as the most definite and valuable means of instruction. It continues to be so whenever it is desirable to have students learn exact and acceptable procedures in mechanical operations.

Demonstration method of instruction according to Nwachukwu (2007) is one of the very effective methods applied by the teachers in achieving objective learning in real-life situations. Nwachukwu noted that demonstration usually involve a process in which the learner follows a manner of planned and organized steps. These steps help the method become a realistic and impressive one and also prove a true learning experience where actual object, good models or apparatus are used. Writing on the importance of demonstration method, Nwachukwu (2007) said that the importance of demonstration method using the appropriate techniques is highlighted for the following reasons.

(1) The demonstration method of instruction helps to enlist the various senses in human being. The senses include the sense of sight, the sense of hearing, the sense of feeling and the sense of recall.

(2) It helps to motivate students, especially when skilled teachers carry it out. The method helps students develop interest and attention.

(3) The participatory nature of the demonstration method helps students for effective communication. No effective learning will take place unless there is a two-way traffic approach to learning.

(4) It saves time and energy especially for the teachers.

(5) The method helps to enhance the prestige of the teacher, as students get convinced of the teacher’s command of the subject.

(6) There is measure of positive reinforcement in which case students repeat what the teacher has demonstrated.

(7) It gives a real-life situation of the course of study as students acquire skills in real-life situation using tools, materials in actual job situation.

(8) It allows process and product evaluation.

In the same vein, Ericson (2008) opined that demonstration methods as performed by the teacher are unfailing in developing and maintaining interest among students for the following reasons:-

(1) There is an appeal to the sense of vision.

(2) Skilful performance in hand manipulation always attracts attentions.

(3) Students see immediately, progress as a result of effort.

(4) A desire is around to emulate work of the teacher.

In using demonstration method for instruction, Okoro (2009) pointed out that for demonstration to be effective, the teacher should

(1) Plan the demonstration

(2) Prepare students for the demonstration.

(3) Carry out the demonstration process and re-state the important points connected with it.

The demonstration as performed by the teacher according to Ericson (2008) is unfailing in developing and maintaining interest among students for the following reasons:

• There is an appeal to the sense of vision.

• Skilful performance in hand manipulations always attracts attention;

• Students see immediate progress as a result of effort;

• A desire is aroused to emulate the work of the teacher.

Demonstration method is divided into three classes namely: class demonstrations, group demonstration and individual demonstration. Class demonstration is a type of demonstration given to an entire class at one time in one subject. The use of class demonstration that involves the entire class saves the teacher’s time. However in using class demonstration, the following factors are important for a successful demonstration according to Ericson (2008): The class should feel a need for the demonstration: It may be the task of the teacher to use some artificial means to produce such an attitude, but in most cases

the need for information about work which students are eager to do can be the determined factor for the time of the demonstration primarily because they had been planned in advance for a certain date.

Confine the demonstration to single unit of work: Teachers often fail to analyze the instructional material into sufficiently small units. As consequences the demonstration becomes long, and uninteresting. Teachers should emphasize a small unit and enable the class to practise as quickly as possible after proper interest has been aroused in the unit taught. Have equipment and materials in readiness: All devices to be used in a demonstration must be at hand. While the teacher goes to the tool room or send students to bring instrument elsewhere during the demonstration, attention is diverted and the emphasis on the unit of instruction is weakened or destroyed.

Make demonstration accessible to learners: During demonstration in the school shop, teachers should assume a position that will enable all the students to see in detail and hear the oral explanation.

Use effective oral explanation: Oral explanation and discussion are needed for effective demonstration but must serve to focus and hold attention upon the work being performed.

Practise privately: Every demonstration covering a new unity of work, which has not been recently performed by the teacher, should be practised beforehand. It happened too often that the teacher runs against some unforeseen difficulty when he relies upon his imagination and previous experiences and thus the class loses confidence in the teacher and interest in the work.

Teacher should not demonstrate on student’s work: It is unfair to give one individual student the benefit of the work done in the demonstration. The teacher should perform on a separate article, which may belong to him or to the shop when completed.

Do not quit too soon: It is better for the teacher to give a longer demonstration carried out to a satisfactory completion, than to stop short of goal and attempt to cover the remainder through oral discussion. Care must be taken to stop the demonstration mid-way so as to prevent the impression that the teacher is afraid to try to perform certain processes because of lack of skill.

Use common tools: To reserve the newest and best looking tools for the teacher’s demonstration bench is a mistake. Such tools may not work better, but they appear as if they might, and thus create suspicion. Give the new tools to students and use older ones for demonstration. This will show that the outward appearance of tools has little to do with the work they perform if they are in proper condition. The same sizes of tools should also be used as those given to students.

Give example in accuracy: The excuse by the teacher that he is not taking the time to do the work as well as he wants it done by the class is not always acceptable by the students. No greater accuracy or better technique can be demanded rightfully at anytime in shop than is set as a standard by the teacher’s work.

Use acceptable trade method: The teacher should use the acceptable procedure necessary for carrying out the task in a trade to facilitate the understanding of the unit of lesson. Check the success of the demonstration: Before requesting the student to practice what they have learnt teacher should ensure that the demonstration has served its purpose. At the best there will be need for correcting wrong impression, assisting in establishing correct habits, and encouraging those who lack confidence to go on.

Other methods used in technical and vocational education are discussion and field trip. The discussion method is based upon extensive contributions of ideas and expressions from the members of the class (Ericson, 2008). This method gives students an opportunity to derive information from themselves and teacher.

According to Ericson, the assumption is that everyone in the class has something to contribute. The students and the teacher are actively involved in talking, unlike in lecture method where the teacher does all the talking. Ukoha & Eneogwe (2008) added that two key points should be noted when using discussion method; discussion required a clearly stated objective to serve as a focus and guiding post. Neglecting this criterion may hamper the realization of the set objectives, as discussion may degenerate to mere informal debate on superficial issues and the emergence of a star speaker who eventually will dominate the discussion. Secondly, to ensure effective participation of the members, prior knowledge of the discussion topic is essential. The discussion topic could be derived from several controlled experiences of the learner, such as going on a field trip, viewing an educational filing, listening to a lecture or reading an assigned book.

Demonstration is one of the conventional or traditional methods employed for teaching vocational and technical education subjects in senior secondary schools. It was also compared with computer tutorial and drill in this study.

**Field Trip**

Field trip offers students opportunity to study industrial process and relate what they learn in the school with what actually obtained in the world of work. Learning provided by field trip is concrete, sensory and basic. This is because students are provided with opportunity to see and observe things, places, people and processes in real life settings. (Nwachukwu, 2007), explained that, if it is not learning oriented it is not field trip. It is important to note that field trip should not be embarked upon unless there is a fully developed plan with a clear objective for the students. Furthermore, after the field trip teachers should request the students to submit report of what they have learnt and this should be discussed in class. This actively makes the field trip learning experiences rather than mere site seeing. In this study, field trip was not among the conventional methods compared with computer tutorial and drill.

**Computer Technology use for Teaching and Students’ Achievement in Learning**

Students’ achievement connotes performance in school subjects as symbolized by a mark or score on an achievement test. According to Epunam (2009) academic achievement of student is defined as the learning outcomes of the students which include the knowledge, skills and ideas acquired and retained through his course of study within and outside the classroom situations. It is quantified by a measure of the student’s academic standing in relation to those of other students of his age (Anene, 2007). Students’ achievement is dependent upon several factors, among which are teachers’ qualifications (teachers’ experience and education), instructional methods and learning environment.

Teacher quality is a very important determinant of the quality of education. According to Rivkin, Hanushek and Kain (2007) measurable characteristics of teachers such as teacher experience, and education, explain variation in teacher effectiveness. Demmert (2007) opined that solid content knowledge, sound pedagogy, outstanding interpersonal skills, understanding of cognitive development and the different learning stages of students, are well-established characteristics of effective teachers that produce greater students’ achievement.

Over the past decades, educational research has focused on the question of what influences academic achievement or, more generally, what influences learning. Most studies support theories that focus on the interaction between the student and the learning environment. The interaction approach, assumes that academic achievement or learning is a result of the complex interaction between the students and the learning environment. Interaction is a more important facilitator of learning. Educational technologists have, of course, always understood that a student must interact with an environment for learning to occur (Winn, Hoffman, Hollander, Osberg, Rose and Char, 2007). Similarly, (Osberg, Winn, Rose, Hollander, Hoffman and Char (2007) noted that interaction is a critical component to students' knowledge construction. Brewer (2008) opined that computer-based technologies are powerful pedagogical tools and can turn the passive students into an active participant in the learning environment. According to UNESCO (2012) computer technology provides powerful tools to support the shift to student-centred learning and is capable of creating a more interactive and engaging learning environment for teachers and learners.

Computer enhances how students learn by supporting four fundamental characteristics of learning: Active engagement, participation in groups, connections to real-world contexts, frequent interaction and feedback (Basham, 2007). Strong and Smith (2007) stated that human/computer interface has a direct relationship to stress on the user’s cognitive ability. When designing instructional materials for computer use as well as subject matter mastery, stress is reduced if a user can easily make use of the interface, comprehend the functions, and use the tool to solve problems. Students must be able to easily navigate in a computer environment in order to focus on the topic.

According to Cotton (2007) the use of computer based learning produces achievement effects superior to those obtained with traditional instruction. Cotton explained further that student learning rate is faster with computer based learning than with conventional instruction. For instance, cotton noted that in some research studies, the students learned the same amount of material in less time than the

traditionally instructed students, besides, students receiving computer-based learning learn better, faster and have more positive attitudes towards learning than students receiving conventional. Other benefits of the computer based learning include: Locus of control, Attendance, Motivation/time-on-task, and Cooperation/collaboration

Therefore, nowadays, it is a generally held position that the process of learning will improve when learners are given computer-based learning that allow for interactive access tuned to the specific needs of each individual learner.

Computer artifacts for learning should therefore be both interactive and articulated.

Interactive learning environments can be seen as engines for education that facilitate learning by having learners interact with a simulation of the subject matter. Bialo (2010) expresses that students like working with computer for the following reasons:

• Computer never get tired

• Allow students to work privately

• Never forget to correct or praise

• Are self paced

• Do not embarrass students who make mistakes

In the same vein, Edward (1985) opined that computer enhances students’ achievement in the following ways

• Help students improve their spelling

• Call for using sight, hearing and touch

• Give a sense of control over learning

• Is excellent for drill and practice

• Give immediate feedback

• Saves time than conventional teaching

• Encourages individualised learning

• Minimizes the problem of large class

• Conserves the teacher’s energy

**Achievement**

Achievement according to Longman Dictionary of Contemporary English

(New Edition) is something important that you succeed in doing by your own efforts. Academic achievement according to Lavin Theory (1965) refers to some methods of expressing a student’s scholastic standing. This can be regarded as a source or subject grade, an average for a group of courses/subjects in a programme of study for example in basic electronics. The theory further stresses that there are two dimensions to academic achievement namely: good and poor achievements.

Good academic achievement leads to success while poor academic achievement leads to failure. Each of these two achievements is experienced by students in one form or the other.

In this study, any student who scores between 50 and 100 out of the obtainable 100 marks is considered to have good academic achievement while those who scores between 0 and 49 are considered to have poor academic achievement. Tella (2007) states that a number of motivational processes are

involved in achievement. The processes are intrinsic motivation which is based on internal factors such as self determination, curiosity, challenge and effort, and secondly extrinsic motivation which involves external incentives such as rewards and punishments. Some students (e.g. basic electronics students) study hard because they are internally motivated to achieve high standards in their work (intrinsic motivation) while other students study hard because they want to make good grades or avoid parental disapproval (extrinsic motivation). Achievement of student in any subject or occupation depends on his interest.

**Interest**

Musa, (2008) defines interest as a zeal or willingness of participating in activity from which one derives some pleasure. He further observed that interest is a tendency to become absorbed in an experience and to continue in it. From the foregoing, interest in a particular thing is a feeling manifested in an activity. Umunadi (2008) observes that students’ interest is closely associated with their achievement in basic electronics. Umunadi (2008), further states that one’s success in basic electronics is influenced by his interest in it which might be due to the type of approach used in teaching basic electronics. If you have an interest in something or someone, you will want to know or learn more about them. Ukwungwu (2007), views interest as a tendency to pay attention to and enjoy some activities that pleases or engages the attention of the learner. According to Akano (2008), interest is an organisamic condition that results in a desire for further stimulation from a particular type of object, idea or experience. All the above definitions from several scholars suggest that interest has been conceptualized as the internal state of mind or predisposition to the experiences of individuals.

Obioma & Ohuche (1988) reported that students performed significantly better in those areas they had interest, and performed poorly in the areas they lack interest.

This lack of interest of students in basic electronics due to the teaching method used, make them also to lack retention of learning in the subject.

Situ (2009) defines interest as an expression of likeness or dislikeness which plays a significant role in learning all subjects or courses. Situ further stressed that if a student is interested in any subject, such student will spend more time studying that subject. Osuafor (2007) observes that the effective disposition of a student has direct relevance to his interest in learning. He further stressed that interest is an effective behaviour that can be aroused and sustained in teaching and learning through appropriate teaching method.

Ifeakor (2014) investigated on the influence of production and utilization of instructional materials on secondary school student’s interest in chemistry. He used 700 SS II students randomly selected for use as a subject of the study in Anambra State. It was a survey research and he used 4 – point scale questionnaire to assess the interest of students on the production and use of instructional materials on the students. He analyzed his data using frequency count and percentage. The result revealed that students showed greater interest in the production and utilization of instructional material.

Eze (2008) studied effects of Geo-board on junior secondary school students Achievement and interest in Geometry. The study employed a quasi experimental design. The sample comprised 360 JSS II students drawn from Obollo Afor Education zone of Enugu State. The study comprised 8 intact classes, 2 from each of the four co-educational secondary schools sampled. Two intact classes one for experimental and the other for control groups were used from each of the 4 school for the study. He used Geometry Achievement Test and Geometry interest inventory as his instruments. He analyzed his data using adjusted mean, standard deviations and Analysis of covariance. The result showed that Geo-board improved achievement and interest of students in geometry. It is relevant to saythat interest is a stronger factor in the teaching and learning of various disciplines in which basic electronics in senior secondary school in Nigeria is of no exception.

The extents of behaviour towards basic electronics are largely determined by the kind of interest developed by the students.

Researchers have made recommendations on the way to improve the interest of students in their various areas of specialization. Such recommendations include students’ motivation; making teaching more meaningful by improving on the teaching method adopted; making teaching more concrete and concise. The above creates the need for adoption of innovative techniques or method of teaching in English Language. The use of Computer Tutorial and Drill may facilitate, develop, sustain and retain the students’ interest in English Language. Therefore, the degree at which the adoption of the use of Computer Tutorial and Drill can affect interest in English Language creates the need for this research work. Nwachukwu (2007) states that the learners’ interest is very important in the study of any subject because the interest of a learner is in many ways the reflections of his/her deeds as well as strong indicators of timeless and relevance. Therefore, it is pertinent to say that the interest of a student in a particular subject or course has a long way in the academic achievement of such student.

The Federal Ministry of Education (1993) in her report showed that senior secondary school students are always not being interested in vocational subjects because of un-motivating and unchallenging methods and approach used by their teachers. Interest, according to Agwagah (1993), is the preference for particular types of activities, which is the tendency to seek out and participate in certain activities. Situ (2009) defines interest as an expression of likeness or dislikeness which plays a significant role in learning all subjects. It is therefore the zeal or willingness to participate in any activity from which one derives some pleasure.

This implies that if a student is interested in any subject, such student will spend more time studying that subject. Adeyegbe (2008) observes that students’ interest in a subject is closely associated with their achievement in that subject.

According to Osuafor (2007), the affective disposition of a student has direct relevance to his interest in learning. He further stressed that interest is that attraction which forces or compels a student to respond to a particular stimulus. Therefore, interest is an affective behaviour that can be aroused and sustained in teaching and learning through appropriate teaching method. Teachers of English Language should device the ways and means of selecting various teaching methods that will arouse students’ interest in the subject.

However, teacher’s attitude to teaching and learning in basic electronics go a long way in academic achievement, interest and retention of the students. This was reaffirmed by Okereke (2008) who observed that more than anything else, teaching methods affect the responses of students and determine whether they are interested, motivated and involved in the lessons in such a way as to be engaged in good learning.

**Retention**

According to Momoh – Olle (2007), retention is viewed as the repeat performance by a learner of the behaviour than an acquired piece of knowledge is always intended to elicit in the learner (without practice) after an interval of time. Momoh-Olle (2007) further contended that although retention initially fails with time (that is, it decreases rapidly with time), it later stabilizes to a plateau or permanent knowledge and that retention is affected by several factors among which are the degree of original learning, the method of learning, the method of measuring it and the time at which retention is measured after learning. Riding, Grimely, Dahraei and Banner (2008) identified an individual’s working memory capacity and cognitive style as other factors affecting retention of learning. They explained that working memory refer to an active information processing resource of limited capacity which is necessary for performing cognitive tasks such as comprehension, reasoning and learning. The working memory system comprises three components: the central executive slave systems, the phonological loop and the visuo-spatial sketch pad. Riding et’al added that there are individual differences in working memory capacity and this accounts for differences in individual’s information processing efficiency. On the other hand, they further explained that cognitive style refers to an individual’s preferred and habitual approach to organizing and representing information and that there are various style labels which could be accommodated within two fundamental style dimensions, that is, the Wholist Analytic styles where the individuals tend to organize information in wholes or parts and the verbal-imagery dimension for individuals who are inclined to represent information verbally or in mental pictures during thinking. To learn and retain new knowledge, a comprehensive teaching method such as computer assisted instructional method is needed.

Retention simply refers to how much a person remembers after an interval of time without practice and that it is the difference between what is initially learnt and what is later forgotten. (Haynie, 2008) defines retention learning as learning which lasts beyond the initial testing and it is assessed with tests administered two or more weeks after the information has been taught and tested. Haynie further explained that retention of learning is measured with two tests: the initial test and the delayed retention test.

**The Use of Computer Drill in Teaching of English Language**

The CTD program started in 2008 by a single lecturer who recognized the pedagogical opportunity presented by a small classroom in Olson Hall and a closet full of unused Apple Compliers (Encarta, 2007). The program has grown steadily since then. Currently the composition program is offered in classroom. CTD programs are developed in various subject areas such as in English, mathematics, sciences, social sciences, administration and liberal arts. Several Computer Study courses have existing CTD program. Another program was designed by the University of the Witwatersrand for freshman year in general chemistry and is also suitable for advance placement English student (Kulik, 2013).

CTD program is very interactive in the following areas: English, nuclear chemistry colligates properties, trends etc all with a helpful guide and take each student 10-30 minutes to complete. In a well equipped computer classroom and with proper training, instructors can do everything they could do in a standard classroom, but the computers allow them to accomplish many additional goals that would otherwise be difficult or impossible.

Projection screens enhance demonstration and allow for shared screen work; local network servers facilitate paper transfer of files; access to the internet can turn each seat into a library; and on line conferencing can stimulate active, written participation by every student. Several works are being initiated by students and lecturers in Universities, Polytechnics and Colleges of Education such as development of ICT – Based Software (Courseware) and its Application in Teacher Education in Nigeria by Mudasiru and Adedeji (2010). The use of English Language for Junior Secondary School by Alo (2008), Situ (2009) on Child Centered Play therapy with computer simulation and animated and effect to improve teaching and learning of computer in primary school.

CTD is defined by many authors in many ways. Encarta (2007) defines CTD as diverse and rapidly expanding spectrum of computer technologies that assist the teaching and learning process. CTD refers to instruction or remediation presented on a computer. CTD includes Computer Tutorial software, drill software and simulation. Other instructions category includes computer managed instruction

(CMI), Computer assisted testing (CAT) and test banking. CTD uses instructional or educational software known as courseware to aid classroom instruction.

Information that helps teach or encourages interaction can be presented on computers in the form of text or in multimedia formats, which include photographs, videos, animation, speech and music. A CTD lesson can be taught by computer tutorial and drill, or simulation software. The guided drill is a computer program that poses questions to students, returns feedback, and selects additional questions based on the students’ response. Recent guided drill systems incorporate the principles of education in addition to subject matter knowledge into the computer program. Computers also can help students visualize objects that are difficult or impossible to view e.g. electron movement, molecular structure or even human anatomy. Computer programs are interactive and illustrate a concept through attractive animation, sound and demonstration. They allow students to progress at their own pace and work individually or problem solved in a group.

Computers provide immediate feedback, letting students know whether their answer is correct. If the answer is not correct, the program shows students how to correctly answer the question. Computers offer a different type of activity and a change of pace from teacher-led or group instruction.

Computer tutorial and drill improves instruction for students with disabilities because students receive immediate feedback and do not continue to practice the wrong skills. Many Computer programs can move through instruction at the student’s pace and keep track of the student’s errors and progress. Computers capture the students’ attention because the programs are interactive and engage the students’ spirit of competitiveness to increase their scores. Also computer assisted instruction moves at the students’ pace and usually does not move ahead until they have mastered the skill. Programs provide differentiated lessons to challenge students who are at risk, average or gifted.

The best way to make learning more concrete is to make use of real objects (Akinwale, 2014).

**Studies on the Combined Effect of Computer Tutorial and Drill Instructional Packages on Students’ Achievement**

The need to get students involved in the classroom learning activities has called for the need for teachers to use teaching methods which are student-centred to minimize rote learning and memorization of facts in the classroom. However, the present methods of teaching basic electronics to the secondary schools students remain predominantly teacher-centred. These methods include demonstration and lecture methods (Federal Ministry of Education (FME), (2000). Oranu (2008) maintained that these methods which are teacher-centred do not give students enough opportunities to participate in the classroom instructions. The learners are reduced to passive learners and as a result become apathetic and repulsive to learning. The shortcoming of these methods of teaching may have contributed to poor performance of students studying English Language at public examinations (Umunadi, 2008) The preparation of workers for entry-level jobs and advancement in the workplace requires the use of teaching methods that provide not only job skills, but also higher-order thinking and, problem solving skills in the students. Doolittle and Camp (2009) indicated that teaching methods which are teacher-centred do not adequately equip students with higher-order thinking and problem solving skills.

Besides, students taught with the conventional teaching method are unable to retain their learning and apply it in new situations (Doolittle and Camp, 2000; Ukoha and Eneogwe, 2008). Moreover, basic electronics is concerned with science and technology. Technology, the world over is dynamic. With the interaction of globalization and technological development, work organizations are getting increasingly flexible, process-based and multi-tasking. This apparently is to suit demands of the prevalent knowledge in the society and ample use of information and communication technology in work places and changes in the organization of work (Ogwo and Oranu, 2008; International Labour Organization, (ILO), 2008).

Hence, there is need for educational institutions to adjust to changes in work places so as to produce students with work place basic skills required to thrive in the 21st century knowledge-based economy and society (Rojewskin, 2012; Qureshi, 2007).

According to UNESCO (2012), the adjustment requires educational institutions to embrace new technology in order to make teaching student-centred.

**Studies on Combined Effect of Computer Drill on Students’ Achievement, Interest in Learning**

At present, the primary application of micro-computers in special education like music is Tutorial, Drill and Practice methods of CAI (Becker, 2013; Maddux, 1984). Computerized drill and practice has been equated with worksheets and reviled as an inefficient application of microcomputers (Golden, 2008; Haven, 1985; Reinhold, 2008; Slesnick, 2008). Nevertheless, CAI drill and practice has been shown to have a positive effect on the achievement of elementary school children (Kulik and Bangert – Drowns, 1985) as well as learning disable and unachieving students (Bellotti, 1985) Clark (1982) noted that students often report enjoying the instructional method from which they learn the least. However, Clark (1982) suggested that a computer learning environment has the potential to reverse this trend and improve both learning and academic interest. Swigger and Cambell (2013) observed CAI drill and practice students expressed significantly more positive attitudes towards academic work on the computer than towards similar academic tasks undertaken in the regular classroom.

Swigger and Cambell (2013) further observed that students learn a course’s content best when exposed to the subject matter using a variety of teaching styles.

This enhancement can be achieved through interactive computing that can provide students with supplementary explosive to the fundamental concepts in English Language as well as to give them an opportunity to apply and further explore these concepts.

Mudasiru and Adedeji (2010) Suggest that because drill and practice is an instructional strategy rather than an evaluation procedure, special effort should be put into providing abundant, precise and quite specific feedback. The authors further stress that while it is true that drill and practice exercises necessarily help to evaluate students performance, their principal purpose should be instructional.

Martin 1973 investigated the effects of a computerized drill and practice program on the achievement and attitudes of third and fourth grade students of different ability levels. Participants outperformed controls and low ability students gained more than middle or high ability students no attitude differences were noted.

The implication of this research is that drill and practice can serve a very important role in bringing the learner to a level of “mastery” on lower level sub skills so that the learner can more easily perform some higher level complex skill.

**Summary of Review of Related Literature**

The various literatures reviewed so far revealed that computer assisted instruction and computer practice, tutorial and drill have added a new dimension to teaching and learning. It was discovered that learning activities labeled as “drill and practice” were often looked down upon because they only address low-level skills or knowledge. However, Martin 2009 points out that resent research on cognitive learning suggests that the role of drill and practice in learning may be more important than has previously been realized. Martin 2009 further stated that what has traditionally been identified as fundamental units of knowledge and skill can often be broken into still smaller units. It is in learning these “sub skills” that a drill and practice approach seems to fit best. For example, a musician learning a new piece of music, once the mechanics of the piece have been mastered, the musician can then focus attention on interpretation.

The implication of this study is that drill and practice can serve a very important role in bringing the learner to a level of “automaticity” on lower to level sub skills so that the learner can more readily perform some higher level complex skill. The review also revealed that basic electronics which is one of the vocational subjects taught at the senior secondary schools is still being taught with methods which are based on the behaviorial learning theories. These methods do not provide for student adverse disposition and encourage rote memorization, which does not promote retention of learning. The method does not provide ample opportunity for the incorporation of instructional techniques such as computer tutorial, drill and practice which is student centered. It rather uses the conventional method which is teacher centered. Many authors blamed poor teaching methods for the poor performance of students in English Language. This prompted the call for alternative methods of teaching. This is why this study has chosen Tutorial, Drill and Practice methods of CAI to find out whether it will produce effective result.

It has also been found that there have been challenges in workplaces as a result of the effects of globalization and the rapid revolution in information and communication technology. These changes have called for a realignment of curriculum content and instructional techniques in line with current realities if vocational education products are to survive in the continuously changing and competitive world. Moreover, the review has revealed that there are no empirical studies done in Nigeria on the effects of computer tutorial, drill and practice based on instructional approach on students’ achievement, interest and retention of learning in English Language.

Review of literature in this study showed that many studies were carried out in Computer Assisted Instruction (CAI) in areas such as simulation, games, data processing and practice. Studies in English, music and history showed the effect of CAI on senior secondary students’ performance when exposed to Individualized Computer Assisted Instruction (ICAI), Cooperative Computer Assisted Instruction

(CCAI) and those exposed to conventional teaching method. A study on the combined effect of computer tutorial and drill is needed to probe further on the investigations already carried out in this area. This is in fact the gap this study intends to fill.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**Introduction**:

This chapter describes the procedure that will be used to carry out this study under the following sub-headings; design of the study; area of the study, the population for the study; sample and sampling technique; an instrument for data collection; validation of instruments; reliability of instruments; experimental procedure; and method of data collection.

**Research Design**: The study was conducted using quasi–experimental design. Specifically, the pre – test and post – test, control group design will be used. This implies that intact classes (non-randomized groups) will be used in the study. Quasi experimental research design permits the use of intact classes. This design will be adopted because it will not be possible for the researcher to randomly sample the subjects and assign them to groups without disrupting the academic programme and the timetable of the secondary schools involved in the study.

**Area of the Study** : The study was carried out in Mainland local government Area of Lagos State.

**Population of the Study:**

The target population of the study was made up of all JSS 2 junior secondary students in Mainland local government Area of Lagos State.

**Sample and Sampling Techniques**

A sample of 120 students was randomly selected from two public schools drawn from the target population. The choice of 120 students as a sample of this study is in line with a Central limit theorem which recommended a minimum of thirty sample size. This suggests that the minimum of 30-sample size is viable for experimental research. Students were randomly assigned to experimental and control groups prior to the administration of treatment. Two intact classes (one from the experimental group and one from the control group) from the two public school will be used for the study.

**Research Instrument**

The instruments, the researcher will use for collecting data for the study will be:

1. English Language Achievement Test

2. English Language Questionnaire

3. Drill and Practice Learners Package

English Language Achievement Test: A 20 items multiple choice type which was developed by the researcher from the content areas used for the study. The multiple choice items was drawn using the table of specification. English Language Questioning Method: A 20 items inventory was designed to measure students’ interest in English Language. The items was developed using the Likert 4 - point rating scale of; Strongly Agreed (S.A); Agreed (A);; Disagreed (D); and; Strongly Disagree (S.D). The response categories were assigned numerical values of 4, 3, 2, and 1 for positively worded items and 1, 2, 3, and 4 for negatively worded items.

**Method of Data Collection**

The instrument for the collection of the data was administered by the teacher and collected back to reduce any form of irregularities that may be associated with questionnaire administration. The approval of the school authority had been sought before the administration of the package and the instrument which was collected back to reduce any form of irregularities that may be associated with activity and questionnaire administration.

**Data Analysis**: The hypotheses formulated in this study was tested using the independent t-test of significance while the simple percentages and frequency counts was used to describe the bio-data of the respondents and data generated for the research questions.

**CHAPTER FOUR**

**DATA ANALYSES AND RESULTS**

**Introduction**

This chapter presents the data analysis with the interpretation of results. It also presented the summary of the findings at the end of the analyses. The simple percentage frequency count was used to analyse the bio-data, while the t-test was adopted in testing the null hypotheses formulated in this study. All the hypotheses were tested at 0.05 level of significance.

**Descriptive Analysis of Respondents’ Gender and Age Range**

**Table 1: Description of Gender**

|  |  |  |
| --- | --- | --- |
| Gender | Frequency | Percentage |
| Female | 58 | 48.3 |
| Male | 62 | 51.7 |
| **Total** | **120** | **100** |

The result in the above table reveals that 48.3% of the respondents are female, while 51.7% of the respondents are male. The above analyses represent the total number of 120 students (100%) used for the study.

**Table 2: Age Range of Students**

|  |  |  |
| --- | --- | --- |
| Age Range | Frequency | Percentage |
| Below 12 years  12- 14years  Above 14 years | 30  60  30 | 25  50  25 |
| **Total** | **120** | **100** |

The result in the above table shows that 25% of the respondents were below 12years of age, 50% of them belonged to the age bracket of 12-14 years, while 25% of them were above 14 years. This implied that the highest numbers of youth were selected within the age bracket of 12-14 years. The above analyses represent the total number of 120 students (100%) used for the study.

**Research Questions:**

In this section, the four research questions asked were answered

Question One: What is the difference in the mean achievement scores of students taught with drill and practice compared with those taught using the conventional teaching methods?

**Table 3: Mean of Pre - test and Post - test Scores of Experimental and Control Groups in the Achievement Test**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **N** | **Pre – test**  **X** | **Post – test**  X | **Mean Difference** |
| Experimental | 68 | 5.22 | 40.51 | 35.29 |
| Control | 52 | 5.28 | 20.16 | 14.88 |

The data presented in Table 3 show that the experimental group taught English Language with drill and practice had a mean achievement score of 5.22 in the pre - test and a mean achievement score of 40.51 in the post - test making a pre-test, post-test mean gain in experimental group to be 35.29. The control group taught English Language with conventional method had a mean achievement score of 5.28 in the pre - test and a post - test mean achievement score of 20.16 with a pre-test, post-test mean gain of 14.88. With this result, the students in the experimental group performed better in the achievement test than the students in the control group.

**Question Two**: What are the mean interest scores of students taught English language with drill and practice those taught using the conventional teaching methods?

**Table 4: Mean of Pre - test and Post - test Scores of Experimental and Control Groups in the Interest Inventory Items**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **N** | **Pre – test**  **X** | **Post – test**  X | **Mean Difference** |
| Experimental | 68 | 122.56 | 143.29 | 20.73 |
| Control | 52 | 122.10 | 133.33 | 11.23 |

Table 4 shows that the experimental group taught English Language with drill and practice had a mean interest score of 122.56 in the pre - test and a mean interest score of 143.29 in the post - test making a pre - test, post – test mean gain in experimental group to be 20.73. The control group taught English Language with conventional teaching methods had a m est, post - test mean gain of 11.23. This result indicates that interest of students in the experimental group is higher than the interest of the students in the control group.ean interest score of 122.10 in the pre - test and a post - test mean interest score of 133.33 with a pre – test.

**Question Three:** What is the difference in the achievement scores of male student compared with female student when taught with drill and practice?

**Table 5:** Mean of Pre - test and Post - test Scores of Boys and Girls Taught English Language with Drill and practice in the Achievement Test.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **N** | **Pre – test**  **X** | **Post – test**  X | **Mean Difference** |
| Boys | 49 | 5.30 | 40.63 | 35.33 |
| Girls | 19 | 5.00 | 40.21 | 35.21 |

The data presented in Table 5 show that boys taught English Language with Drill and practice had a mean achievement score of 5.30 in the pre – test and mean achievement score of 40.63 in the post - test making a pre - test, post - test mean difference of 35.33, while the girls taught English Language with drill and practice had a mean score of 5.00 in the pre - test and a mean score of 40.21 in the post - test, making a pre - test, post - test mean difference of 35.21. With this result, boys taught English Language with drill and practice performed better than girls taught English Language with the same drill and practice in the achievement test.

**Question Four:** What are the mean scores of male and female taught English language using Drills and practice the test for retention of learning?

**Table 6:** Mean of Boys and Girls Taught English language with Drills and practice in the Achievement Post - test and Test for Retention of Learning.

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **N** | **Pre – test**  **X** | **Test for Retention**  X |
| Boys | 49 | 40.63 | 36.26 |
| Girls | 19 | 40.21 | 35.26 |

The data presented in Table 6 show that boys had a mean achievement score of 40.63 in the post - test and a mean score of 36.26 in the test for retention of learning. The girls also had a mean achievement score of 40.21 in post - test and a mean score of 35.26 in the test for retention of learning. The result indicates that the boys taught English Language with drill and practice performed better than girls taught English Language in the test for retention of learning.

**Hypotheses Testing**

The results obtained from the statistical analysis carried out in this study are presented in this chapter.

In testing the authenticity of the various hypotheses formulated in the course of the project, the t-test (X2) was employed.

**Hypotheses**

**Ho1:** There is no significant difference between the mean achievement scores of students taught with drill and practice and compared with those taught using conventional teaching methods.

**HO2**: There is no significant interaction effect of treatments given to students by gender with respect to their mean scores in the English language achievement test.

**Table 7:** *Summary of Analysis of Covariance (ANCOVA) for Test of Significance between the Mean Scores of Experimental and Control Groups and Interaction Effect of Treatment given to Students and their Gender with Respect to their Mean Scores in the English Language Achievement Test*.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **Sum of**  **Squares** | **Df** | **Mean**  **Square** | **F** | **Sig.** |
| Corrected Model | 11860.455 | 4 | 2965.114 | 554.841 | .000 |
| Intercept | 2686.001 | 1 | 2686.001 | 502.613 | .000 |
| Pre – test | 17.395 | 1 | 17.395 | 3.255 | .074 |
| Groups | 9925.597 | 1 | 9925.597 | 1857.000\* | .000 |
| Gender | 34.999 | 1 | 34.999 6 | 6.549 | .012 |
| Gender\* Group | 20.171 | 1 | 20.171 | 3.774 | .055 |
| Error | 598.536 | 115 | 5.344 |  |  |
| Total | 132203.000 | 120 |  |  |  |
| Corrected Total | 12458.991 | 119 |  |  |  |

**\*Significant at sig of F< .05**

The data presented in Table 7 shows F-calculated values for test of significance between the mean scores of experimental and control groups and interaction effect of treatment given to students by their gender with respect to their mean scores in the English Language achievement test. F-value for groups is 1857.000 with significance of F at .000, which is less than .05. The null-hypothesis is therefore rejected at .05 level of significance. With this result, there is a significance difference between the mean scores of students taught English Language with drill and practice and those taught using conventional teaching methods in the achievement test. The F value for interaction effect (Group Gender) is 3.774 with significance of F .055 which is greater than .05. Therefore, the null hypothesis is accepted. This indicates that there is no significant interaction effect of treatment given to students and their gender with respect to their mean scores in the Achievement Test.

**HO3**: There is no significant interaction effect of treatments given to students by gender with respect to their mean scores in English language interest inventory items.

**HO4:** There is no significant difference between the mean achievements scores of boys and girls taught English Language using drill and practice.

**Table 8:** Summary of Analysis of Covariance (ANCOVA) for Test of Significance between the Mean Scores of Experimental and Control Groups and of Interaction Effect of Treatment given to Students and their Gender with Respect to their Mean Scores in the English Language Interest Inventory Items**.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **Sum of**  **Squares** | **Df** | **Mean**  **Square** | **F** | **Sig.** |
| Corrected Model | 2861.202a | 4 | 715.300 | 212.434 | .000 |
| Intercept | 226.350 | 1 | 226.350 | 67.223 | .000 |
| Pre – test | .103 | 1 | .103 | .031 | .861 |
| Groups | 2367.808 | 1 | 2367.808 | 703.204 | .000 |
| Gender | 28.326 | 1 | 28.326 | 8.412 | .004 |
| Gender\* Group | 6.847 | 1 | 6.847 | 2.033 | .157 |
| Error | 377.123 | 115 | 3.367 |  |  |
| Total | 2267689.000 | 120 |  |  |  |
| Corrected Total | 3238.325 | 119 |  |  |  |

The data presented in Table 8 shows F-calculated values for test of significance between the mean scores of experimental and control groups and interaction effect of treatment given to students by their gender with respect to their mean scores in the English Language interest inventory. The F-value for groups is 703.204 with significance of F at .000, which is less than .05. The null hypothesis is therefore rejected at .05 level of significance. With this result, there is a significant difference between the mean interest scores of students taught English Language with drill and practice and those taught using conventional teaching method in the interest inventory items. F value for interaction effect (Group Gender) is 2.033 with significance of F .157 which is greater than .05

Therefore, the null hypothesis is accepted. This indicates that there is no significant interaction effect of treatment given to students and their gender with respect to their mean scores in the Interest Inventory Items.

**Summary of Findings**

Based on the analyses of this study, the following results were obtained:

1. There is a significant difference between the mean achievement scores of students taught with drill and practice and compared with those taught using conventional teaching methods.
2. There is no significant interaction effect of treatments given to students by gender with respect to their mean scores in the English language achievement test.
3. There is a significant interaction effect of treatments given to students by gender with respect to their mean scores in English language interest inventory items.
4. There is a significant difference between the mean achievements scores of boys and girls taught English Language using drill and practice.

**Discussion of Finding**

The data presented in table 1 provided answer to research question one.

Finding revealed that students taught English Language with drill and practice had a higher mean achievement score than those students taught using the conventional teaching method in the achievement test. In the same vein, analysis of covariance was used to test the first hypotheses, Table 7, at the calculated F-value (1857.000), significance of F (.000) and significance level of 05. There was a statistically significant difference between the mean scores of the group taught with drill and practice and those students taught using the conventional teaching methods in the achievement test.

The implication of this finding therefore is that drill and practice is more effective than conventional teaching methods in enhancing students’ achievement in English Language. This finding is similar to the finding of Odogwu (2012) who found that there was a significant difference in the mathematics achievement of experimental group taught with CTD and control group taught with conventional teaching methods in favour of the experimental group. Kulik, Bangert and Williams (2013) in their study on “Effects

of Computer – Based Teaching on secondary school students” also found out that the use of CTD in teaching English students improved their achievement in the subject than the students taught English with traditional instructional methods.

The findings is also in line with the assertion of Cotton (2011) who pointed out that the use of computer based learning produces achievement effects superior to those obtained with traditional instruction. Cotton explained further that student learning rate is faster with computer based learning than with conventional instruction.

This finding is also in line with the finding of Audu (2007) who carried out a study on effect of constructivist approach on students’ performance in building construction trade and found experimental group had higher mean scores that the control group in the pre-test and post-test.

This is an indication that treatment has positive effects on students’ achievement which is also in agreement with the finding of this study. The difference in the academic achievement of the students in English Language is similar with the studies carried out in other fields of learning on students’ academic achievement by Demen (2013), Olson and Pratt (2000) Coitman (2002) and Kotrlik (2004) who in their separate studies found that the adoption of any treatment as an instructional framework greatly imploies students’ academic achievement. The result could be explained by the fact that teachers’ adoption of various instructional techniques appeal to the students’ various intelligence address their diverse learning styles and consequently increase their motivation to learning and improve their academic achievement.

This support the view of Jarvis (2008) students learn best when computer is used for instruction delivery. The author explained further that students learn better and retain more of what is taught in the class.

Analysis of Covariance was used to test hypothesis two Table 7. At the calculated F-value (3.774), significance of F (.055) and confidence level of 0.05 there was no significant interaction effect of treatment given to students and their gender with respect to their mean scores in the Achievement Test. This result showed that the effectiveness of treatments on students’ achievement in English Language does not depend on the level of gender. Hence, there were no differential effects of treatments over levels of gender (male and female), which implies that drill and practice is more effective than conventional teaching methods in improving students’ achievement in English language regardless of Gender.

It has been established that the learner’s own feeling toward the subject matter will largely determine how much of the material will be learned and how thoroughly it will be learned. According to Ogwo and Oranu (2006) to facilitate learning, the teacher must secure and sustain the attention and interest of the learner. They emphasized that unless attention is maintained and interest sustained, learning can hardly be accomplished. A state of sustained interest is shown by continued and determined readiness to learn on the part of the student as evidenced by a state of readiness to learn.

Computer enhances how students learn by supporting four fundamental characteristics of learning: active engagement, participation in groups, connections to real-world contexts, frequent interaction/feedback (Basham, 2007). Owing to the dominance of the teacher in the traditional teaching approaches. Opara (2012) observed that the method hardly increased students’ enthusiasm and interest. Teaching methods such as use of computer technology provides students’ interaction with the learning environment which invariably provides meaningful learning activities. Meaningful learning activities built on prior knowledge motivate students and foster their interest in their effort to executively control their own cognitive process. The data presented in Table 2 provided answer to research question two. Finding revealed that students taught English Language with drill and practice had a higher mean interest score than those students taught using the conventional teaching method in the interest inventory items. Analysis of covariance was used to test the third hypothesis, Table 8, at the calculated F-value (703.204), significance of F (.000) and confidence level of .05 there was a statistically significant difference between the mean scores of the group taught with drill and practice and those students taught using the conventional teaching methods in the interest inventory. The finding indicates that drill and practice is more effective in stimulating students’ interest in English Language than the conventional teaching methods. Active engagement of students and frequent interaction through the use of computers make the classroom instruction student-centred, and focused on the cognitive development and construction of knowledge in the students (Brewer, 2013). Strong and Smith (2011) stated that human/computer interface has a direct relationship to students’ cognitive ability. Hence, the obvious implication of the use of computer in the classroom is to facilitate students’ interaction with the learning environment so as to sustain students’ direct interest which increases the strength of involvement of the learners and which does not allow the learners to be distracted by trivial extraneous events in the perceptual environment.

Analysis of covariance was also used to test hypothesis four, Table 8, at the calculated F-value (2.033), significance of F (.157) and confidence level of .05, the interaction effect of treatment and gender was not found to be significant. This implies that the effectiveness of treatments on students’ interest in English Language does not depend on gender level (male and female), and which also implies that computer drill is more effective than conventional teaching methods in stimulating students’ interest in English Language regardless of Gender.

**CHAPTER FIVE**

**DISCUSSION OF FINDINGS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

**Introduction**

This chapter presents the discussion of findings; the summary of the study, the conclusions arrived at the end of the study and the recommendations made by the researcher at the end of the exercise.

**Summary of the Study**

The study was a pre-test, post-test, quasi-experimental research, designed to determine effects of drill and practice on the academic performance of students in English language in junior secondary school in Lagos State. In this study, some relevant and extensive literatures were reviewed under relevant sub-headings.

The descriptive research survey was used to assess the respondents’ opinions using the questionnaire and the sampling technique. In this study, 120 (one hundred and twenty) respondents were selected and used as samples to represent the population of the study.

## Four (4) null hypotheses were formulated and tested in this study. Also, the SPSS Statistics tool output of the one-way ANCOVA was used to test and analyses the null hypotheses at 0.05 level of significance.

At the end of the exercise, the following results were obtained:

1. There is a significant difference between the mean achievement scores of students taught with drill and practice and compared with those taught using conventional teaching methods.
2. There is no significant interaction effect of treatments given to students by gender with respect to their mean scores in the English language achievement test.
3. There is a significant interaction effect of treatments given to students by gender with respect to their mean scores in English language interest inventory items.
4. There is a significant difference between the mean achievements scores of boys and girls taught English Language using drill and practice.

**Conclusions**

Application of computer technology to all aspects of human endeavour coupled with the need to create student-centred classroom to engage learners in their leaning tasks, improve learners’ interest and consequently achievement in the school subjects has necessitated the use of computer in teaching. This study has found out that Drill and practice improved students’ achievement, retention and interest in English language than the conventional teaching methods.

Also, the study found out no significant interaction effect of treatments given to students and their gender in the English language achievement and interest. This simply means that the effectiveness of Drill and practice on students’ achievement and interest in English language does not depend on gender. Hence, irrespective of gender, students studying English language will record improved performance in their achievement and interest in English language when Drill and practice is used for teaching. These results therefore revealed that drill and practice is a viable alternative to the conventional teaching methods in teaching English language. Moreover, Drill and practice provides powerful tools to support the shift to student-centred learning and is capable of creating a more interactive and engaging learning environment for teachers and learners.

**Recommendations**

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

1. More attention should be accorded computer literacy and operation in the secondary schools and relevant computer assisted instructional packages should be developed for use within the Nigerian school systems. In addition, Nigerian public schools should be equipped with necessary ICT facilities to leverage the potentials of ICT in Nigerian schools.

2. Teachers of English Language in Lagos State should adopt the use of the Drill and practice to teach English Language.

3. Further empirical studies should be carried out on the use of computer for instructional purposes, on different subjects and at different levels to provide sound basis for the integration of computer in Nigerian schools.

4. Curriculum planners such as Nigerian Educational Research and Development Council (NERDC) should consider review of curriculum for English Language for secondary schools with a view to incorporating the Drill and practice.

5. Since the findings of this study showed that students who worked on the Drill and practice performed better than those who worked on the conventional teaching method, students should be encouraged to develop interest in the use of computer.

6. Lagos State Government should provide relevant equipment for teaching English Language in all the secondary schools.

**Implications of the Findings**

The findings of this study have implications for the teachers of English Language, government and administrators of secondary schools, curriculum planners and the society. The findings of this study revealed that Drill and practice improved students’ achievement, retention and interest in English Language than the conventional methods. The implication of these findings is that students studying English Language will learn better, develop much interest and retain their learning better when Drill and practice is used for teaching English Language by the teachers. Also, teachers have to adopt the use of Computer Tutorial and Drill to create student-centred classroom in the teaching of English Language at the secondary schools in Lagos state.

**Suggestions for Further Research**

The following are suggested for further research.

1. This study should be replicated in other geo-political zones in Nigeria
2. Effects of Drill and practice in other areas of vocational subjects such as communication skill, listening skill, agriculture and home economics should be studied in order to find out whether there is any difference in CTD effectiveness.
3. Further empirical study should be carried out on the use of Drill and practice for instructional purposes on different subjects and at different levels.

**REFERENCES**

Akudolu, L. R. (1998) Computer assisted language learning as a teaching model for promoting students’ interest in French language. *Technology Research* *Journal (TERJ)* 2 (1) 40-46.

Akudolu, R. (2008). Concept of Curriculum Implementation. In Offorma, G.C. (Ed). *Curriculum Implementation and instruction.* Onisha. Uni-world Educational Publishers (Nig) Ltd.

Alo, T. R. (2008). Computer Aided Instruction in Mathematics. *An unpublished National Diploma Project submitted to the Department of Computer Science, Yaba College of Technology Yaba.* achievement.pdf.

Anene, G. U. (2005). Home economics and the academic performance of a child. *Journals of Home Economics Research*, 6 (1), 99-103

Awotua-efebo, E. B. (2012). *Effective teaching principles and practice.* Port- Harcourt, Paragaraphic.

Basham, L. K. (2007). The effect of 3-dimensional CADD modeling software on the development of spatial ability of ninth grade technology discovery students. Retrieved July 31, 2007, from *<http://www.etd.isu.edu/docs/available/> etd-01192007-120328*

Brewer, C. (2008). Computer in the classroom: How information technology can improve conservation education. Retrieved March 22, 2007.

Caberera, C. M., & La Nassa, J. S. (2012). *Secondary and middle school teaching methods*. New York: Macmillan.

Clark, C. M. & Star, J. S. (2008). *Teaching methods*. New York: Macmillan.

Demmerk, G. W. (2007). Improving academic performance among native American students: A Review of the Research Literature. Retrieved March 20, 2006 from <http://www.aor.com/pdf>

Entwistle, Y. C. (2011). Effects of computer assisted instruction on students' achievement in Taiwan: A Meta analysis. *Computer and Education*, 48, 216- 233.

Epunam, A. D. (2009). Influence of school environmental variables on academic performance as perceived by students. *Unpublished M.Ed thesis*. University of Nigeria, Nsukka.

Ericskon, G. L. (2008). Female and science Achievement in Science Education (2), 63 – 89.

Fletcher, I. (2010). *Instructional technologies and material development*. London: Nobel Publication and Distribution.

http://WWW.mccsc.edu/.curriculum/teacher, %20 Schools and % 20

Knoll, M. (2014). The project Method: Its vocational education origin and international development Retrieved July, 18, 2005 from *<http://www,khake.com>*

Meskill, R. and Mossop, W. (2007). Current Trends in Educational Technology Research. *Romanian Association for Cognitive Science*, 11(1), 115-129.

Moore, D. K. (2008). Classroom teaching skills. New York: McGraw Hill Companies.

Mudasiru, O. Y. & Adedeji, O. A. (2010). Effects of Computer Assisted Instruction (CAI) on Secondary School Students’ Performance in Biology. *The Turkish online journal of Educational Technology* 9 (1) 62 – 69.

Nwachukwu, C. E. (2007). *Designing appropriate methodology in vocational and technical education for Nigeria*. Nsukka: Fulladu Publishing Co.

Ogwo, B. A. & Oranu, R. N. (2008*). Methodology in informal and nonformal technical/vocational educatio*n. Nsukka: University if Nigeria press Ltd.

Okoro O. M. (2009), *Principles and methods on vocational and technical education* Nsukka: University Trust Publishers.

Okubote, A (2012). *A handbook on understanding computer education. Lagos*: Yaba College of Technology Press.

Okundaye, B. O. (2007). Educator Courseware for Statistics and Basic. *An unpublished PGDCS Thesis*. University of Benin.

Rivkin,S.G, Hanushek, E.AX Kain, J. F. (2007). *Teachers, Schools and Academic achievement.* Retrieved October 10,, 2007, from

Schmeck, T. (2008). The use of Educational Technology in Lesson for Teachers and Nominee Teachers. London: *Nobel Publication and Distribution.*

Situ, A.O. (2009). Attitude of male female students towards mathematics in primary education. *Nigerian Journal of Research in Education.* 2 (1) 31-34.

Tella, A. (2007). The impact of motivation on students’ achievement and learning outcomes in mathematics in Nigeria. *Eurasia Journal of Mathematics, Science* *and Technology Education* 3(2), 149 – 156.

Ukoha, U. A. & Eneogwe, U. N. (2008). The instructional process. In Ogwo, B. A. (Ed). *Curriculum Development and Educational Technology.* Markudi: Onaivi Publishing Co. Ltd.

UNESCO (2012). Information and communication technology in teacher education. Retrieved may 10, 2006 from *<http://www.unesdoc.org/images/0012/001295/129533epdf>.*

Widmayer M.W., and Alayne S. (2007). *Reading CAI with first grade students.* The Computing Teacher, 12, 43-45.

Winn, W., Hofman, H.,Hollander, A., Osberg, K., Rose, H., & Char, P. (1997). The effect of student construction of virtual environments on the performance of high-and low-ability students. Retrieved September 18, 2007, from *http://www.hilt.washinton.edu /publications/r-97-6*

**APPENDICES**

**Appendix I**

## Questionnaire for Students

### SECTION B

Tick () to indicate whether you agree or disagree with the options presented in the column below.

**KEY:**

Strongly Agree (SA)

Agree (A)

Disagree (D)

Strongly Disagree (SD)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **SA** | **A** | **D** | **SD** |
|  | **Difference between the mean achievement scores of students taught English language with drill and practice and those taught using conventional teaching methods.** |  |  |  |  |
| 1. | Students taught English language with drill and practice perform better than their those taught using conventional teaching methods. |  |  |  |  |
| 2. | CAI drill and practice students expressed significantly more positive attitudes towards academic work on the computer than towards similar academic tasks undertaken in the regular classroom. |  |  |  |  |
| 3. | Students taught English language with drill and practice speak better English than their counterparts taught using conventional teaching methods. |  |  |  |  |
| 4. | Students taught English language with drill and practice write better English than their counterparts taught using conventional teaching methods.. |  |  |  |  |
| 5. | In drills, components are used to teach course materials that are designed to allow students to learn at their own pace and ability. |  |  |  |  |
|  | **Interest Scores of Students Taught English Language with Drill and Practice and those Taught Using the Conventional Teaching Methods** |  |  |  |  |
| 6. | Students taught English language with drill and practice develop more interest in the subject than those taught using the conventional teaching methods |  |  |  |  |
| 7. | The teacher-centred method of teaching with drill and practice do not give students enough opportunities to participate in the classroom instructions. |  |  |  |  |
| 8. | CAI allows students to progress at their own speed of learning as they offer learners controlled instructions |  |  |  |  |
| 9. | Drill and practice help students remember and utilize skills they have previously been taught |  |  |  |  |
| 10. | Drill and practice makes student to be familiar with certain concepts prior to working drill programs in order to understand the content |  |  |  |  |
|  | **Difference between the mean interest scores of students taught English language with drill and practice and those taught using conventional teaching methods in interest inventory items**. |  |  |  |  |
| 11. | Students taught English language with drill and practice perform better than students taught using conventional teaching methods. |  |  |  |  |
| 12. | Students’ achievement is dependent upon the teaching method used. |  |  |  |  |
| 13. | The use of computer based learning produces achievement effects superior to those obtained with traditional instruction. |  |  |  |  |
|  |  | **SA** | **A** | **D** | **SD** |
| 14. | Student learning rate is faster with computer based learning than with conventional instruction |  |  |  |  |
| 15. | Students receiving computer-based learning learn better, faster and have more positive attitudes towards learning than students receiving conventional |  |  |  |  |
|  | Interaction effect of treatments given to students by gender with respect to their mean scores in English language interest inventory items. |  |  |  |  |
| 16. | Male students taught English language with drills and practice perform better than their female counterparts. |  |  |  |  |
| 17. | Female students taught English language with drills and practice perform better in English than their male counterparts. |  |  |  |  |
| 18. | Both male and female students taught English language with drill and practice do not perform well in schools. |  |  |  |  |
| 19. | Female students perform well in English language because they like arts-related subjects. |  |  |  |  |
| 20. | Male students taught English language with drill and practice perform poorly because it’s not a conventional method. |  |  |  |  |

**APPENDIX II**

**ENGLISH LANGUAGE ACHIEVEMENT TEST**

**SECTION A: RESPONDENTS BIO-DATA**

**Name of student: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Age: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Gender: Male Female**

Answer the following questions.

POSITIVE SENTENCE WITH A NEGATIVE TAG.

1. She went to the library yesterday, ……………………….
2. isn’t she (b) didn’t she (c) won’t she
3. She is Italian ……………… ?
4. don’t they (b) aren’t we (c) isn’t she
5. We’re working tomorrow ………………… ?
6. aren’t we (b) isn’t she (c) haven’t they
7. We are waiting at the station…………………?
8. haven’t they (b) weren’t we (c) don’t they .
9. They have been to Japan ……………………….?
10. haven’t they (b) weren’t they (c) won’t they
11. She’s been studying a lot recently. ………………
12. isn’t she (b) aren’t she (c) hasn’t she.
13. They’ll be arriving soon ………………………
14. won’t she (b) won’t he (c) won’t they.
15. John must stay, ……………………..
16. mustn’t he (b) dose she (c) is she
17. She is really good at class, ………………………

(a) isn’t she (b) have you (c) was she

NEGATIVE SENTENCE WITH POSITIVE TAG.

1. She wasn’t at home yesterday, .. ……………………?
2. did they (b) were you (c) was she.
3. You weren’t sleeping , ………………………………?

(a)those she (b)were you (c) did they.

1. We hadn’t been to London before, ……………………?
2. had we (b) will she (c) will he.
3. He’ll be studying tonight,………………………………….. ?
4. must they (b)won’t he (c) had we.
5. She won’t have left work before six, ………………………..?
6. will she (b) don’t they (c) is she.
7. She doesn’t have any children, ……………………………….?

(a) does she (b) does he (c) won’t she

1. He didn’t recognize me, ………………?
2. did she (b) did he (c) don’t they
3. Cars pollute the environment, …………………?

(a)do they (b) will they (c) don’t they

1. The trip is very expensive,………………………..?
2. isn’t It (b) isn’t he (c) isn’t she
3. John and max don’t like maths ………………?

(a) do we (b) do she (c)do they

1. Mary didn’t do her home work last Monday, ………………….?

(a) did she (b) did he (c) did they.