**Chapter one**

**INTRODUCTION**

**1.1 Background to the study**

Since independence in 1960, the Federal Government of Nigeria has been creating commendable educational policies. Some of which are the 6-5-3 system of education, the universal primary education (UPE), the universal basic education (UBE), the 6-3-3-4 system of education, National Policy On Education Of the Federal Republic of Nigeria (NPE, FRN, 2013)**.** This educational polices where formulated to ensure that what schools in the country teach, relates to the manpower needs of the society and the nation. Basic Technology is a course of study introduced in the year 2007 into the Primary and (UBE) levels of the 9-3-4 system of education presently practiced in Nigeria. It is an amalgamation of many subjects. These subjects include; electrical/electronics, metal work, simple mechanics, wood work, technical drawing, food processing, rubber and plastic technology. However, the purposes of pre-vocational training given to students at the (UBE) levels are: introduction into the world of technology towards interest arousal and choice of a vocation at the end of (UBE) and professionalism later in life; exposing students to career awareness by exploring usable options in the world of work; and enabling youths to have an intelligent understanding of the increasing complexity of technology, (Federal Republic of Nigeria, 2007). As Comparative Education Study and Adaptation Center puts it, the objectives include: To provide pre-vocational orientation for further training in technology, to provide Basic Technology literacy for everyday living and to stimulate creativity

According to the National Policy on Education of the Federal Republic of Nigeria (NPE, FRN, 2013), subjects on pre-vocational education where included in the secondary school curriculum in 1981.The 6-3-3-4 system of education which was established by the National Policy On Education (NPE, 2013) states that after the first tier of secondary education which has two tiers, three (3) years for junior and three (3) years for senior secondary (3-3), that school leavers should acquire enough skill to enable them be easily employable after the first tier of secondary school. It also helps students build up their interest in the line of technological advancement, since everything is now being computerized, to enable them gain a little knowledge on their carrier choice in life.

Eyibe (2014) defined a teacher as person who imparts knowledge, skills and attitude to someone in a school. Wikipedia (2010) said that teacher provides schooling for others. A technical teacher according to Miller, Bakare and Ikatule (2010) is an individual who is trained in pedagogy and technical area of a particular subject to impart knowledge, skill and attitudes to students in an institution. Teachers of technology in this study are individuals who have been trained professionally in the art of teaching technology curriculum to students in UBE level. Teaching is a "conscious and deliberate effort aimed at changing the disposition of a particular person or persons by another person" (Gilbert, 2005). Teaching prior to contemporary time was viewed that, anyone that facilitated learning constituted a teacher. Today however, teaching involves more than mere impartation of knowledge. Clearly, teaching is a human function performed by an individual (a teacher) for another person (a learner) and those professionally trained to facilitate teaching are called teachers. They involve people in experiences that produce change in behavior. Thus, one might be engaged in a process of self-instruction through programmed materials, books or films but not the act of self-teaching because an individual cannot professionally claim that he has taught himself or herself. The main purpose of teaching is to ensure that learners acquire required skills and knowledge that would result to relative permanent change in behavior of the learner. This is achieved by engaging the learner in a learning process. In addition to impartation of knowledge, a teacher is also involved in teaching learners to think logically, analytically, and creatively, and nurturing learners to the stage of being able to express themselves in speaking, writing and the development of communication skills. Furthermore, teachers train students to develop constructive, positive feelings and attitude about themselves and others, build up social and manual skills and develop strong, coordinated and flexible physical body that can withstand rigorous academic experiences. Therefore, teaching can be defined as "an act of interpersonal influence aimed at changing the ways in which other persons can or will behave"(Gage, 2007). Similarly, Anderson and Burns (2010) described teaching as "an interpersonal interactive activity, typically involving verbal communication, which is undertaken for the purpose of helping one or more students learn or change the ways in which they can or will behave

Hilgard (1999), defined learning as "the process by which an activity originates or is changed through reacting to an encountered situation, provided that the characteristics of the change in activity cannot be explained on the basis of nature response tendencies, maturation, or temporary states of the organism." Kimble (1961), cited by Hergenhann and Olson 2003) also described learning as a relatively permanent change in behavioral potentiality that results from experience and cannot be attributed to temporary body states such as those induced by illness, fatigue or drugs. From the definitions, it is clear that learning has to do with a relatively permanent change in behavior. Although this change will not last forever but it will last for some time in the learner or learners involved. And these changes are not attributable to maturation, growth, development, senescence (aging), drugs and inspiration.

This implies that any acquired behavioral pattern that is not relatively permanent cannot be described as learning. Therefore, learning is a relatively permanent change in the behavior of a person or group of persons "ascribable to a conscious interaction between the teacher and the learners or between the learners and the learning experiences intended". Interaction here implies both verbal and non-verbal communication. Learning involves training and constant practice, which leads to reinforcement. Thus, a good learner believes in rehearsals and practice, as this reinforces learning. In addition, learning is some change of enduring nature, which is expressed in terms of knowledge, skills and attitudes. It is quite different from the kind of change that is attributable to nature. Rather, it is gradual and progressive, and leads to the acquisition of new knowledge, skills and attitudes. And the learner is also expected to be actively involved in his/her attempt to learn. Learning is therefore imperative in educational process.

Thus, Education is the development of individual according to his needs and demands of society, of which he is an integral part. Nwagwu (2003). For this course the structuring and improvement of educational methods is vital. According to Aristotle “Education is the process of training man to fulfill his aim by exercising all the faculties to the fullest extent as a member of society”. Education is important in one’s life because it helps one gain respect from the society. To lead a happy and prosperous life one need to study and can obtain a great job to be successful in life. It helps in earning money and fulfilling the basic needs of life. Also education will help to gain reputation by being in a great position. One can grow in their career and fulfill their dreams. Education irrespective of cast, creed and gender, by gaining knowledge people can stand out as equal with all the other persons from different caste and creed. It is a platform to prove the equity by defeating all barriers.

Echetabu stated that, technology deals with applying science to solve other peoples problem, if science is applied to solve problems, then it is science and not technology. Echetabu (2012), from the above definition, Basic Technology is the provision of primary knowledge of technology to the students. It is that part of science that gives the basic insight of what technology is all about. A study carried out by Uwameiye and Ogiegbaen (2006). Basic Technology is a subject providing students with a process of orientation in production and consumption through experiences in planning, producing, testing, servicing, and evaluating types of consumer and industrial goods. Basic Technology is an integrated subject comprising of wood work, metal work, building technology, automobile mechanics, electrical, electronics and technical drawing at their basic level. The subject matter is offered at the (UBE) level. Technology is important because it encourages learning in a positive manner, it improves students’ skill sets, and it helps prepare the future workforce, creation of social support networks for patients, self-management tools and resources that patients can use with ease

The way teachers teach particular subjects matters allot. If a subject is not well understood by the individual teaching it, it becomes a big problem for the learners to grab what is being thought because even the individual teaching that particular subject/course is narrow minded. Learning unties motivation. If one is not motivated to learn by the teacher teaching the subject or course and by the environment one find himself in it becomes a problem both for the students, the teachers and the nation where this students find them self in. For this course/purpose this research is set out to find out for improving the teaching and learning of Basic Technology in (UBE)

**1.2 Statement of Problem**

It becomes a challenge when a program fails to meet up with the objectives for which it was setup. Identified that Basic Technology was structured to assist learners to develop interest in Technology. The aim therefore as outlined in the National Curriculum for (UBE) is that at the end of (UBE), technological appreciation would have been attained and solid foundation laid for students’ entrance into a vocation of their choice.

Uwameiye and Ogiegbaen (2006) noted that for these objectives to be realized, adequate teaching methods must be put in place for its teaching, so that according to them adequate achievement can be guaranteed.

Implementation is said to take place when the teacher – constructed syllabus, the teacher personality, the teaching materials and the teaching environment interact with the learner; implementation further takes place as the learner acquires the planned or intended experiences, skills knowledge, ideas and attributes that are aimed at enabling the same learner to function effectively at the society.

Lack of functional education however leads to unemployment which by extension leads to underdevelopment of any nation saddled with this problem. In an attempt to address the problem of unemployment, this study looks into the strategies for improving the teaching and learning of Basic Technology in UBE.

**1.3 Significance of the Study**

It is hoped that the findings of this study if implemented, would be useful to educators charged with the responsibility of teaching Basic Technology subject in (UBE) such as the teachers, students, the policy maker and the society, and all other stakeholders. It will help the teachers be more familiar with the use and operation of necessary tools an equipment’s (instructional media) so as to facilitate learning.

The outcome of the study is expected to assist program planners as well as policy makers to modify and or tailor their thinking efforts towards meeting the needs of effective Basic Technology instructional objectives of teaching and learning. In conclusion, it is hoped that the outcome of the study would go a long way in making all stake holders properly acquainted with the respective roles expected of each and every one of them individually as well as collectively where necessary.

**1.4 Purpose of This Study**

The main purpose of this study is to determine the strategies for improving the teaching and learning of Basic Technology in (UBE), specifically this study will

1. Determine the extent to which utilization of instructional material improves the teaching and learning of Basic Technology.
2. Find out the extent to which provision of workshop facilities improves the teaching and learning of Basic Technology.
3. Find out the extent to which training and re-training of teachers improves the teaching and learning of Basic Technology

**1.5 Research Questions**

1. To what extent dose utilization of instructional material improve the teaching and learning of Basic Technology?
2. To what extent dose provision of workshop facilities improve the teaching and learning of Basic Technology?
3. To what extent dose training and re-training of teachers improve the teaching and learning of Basic Technology?

**1.6 Scope of the Study**

In terms of content scope study will be to develop strategies for improving the teaching and learning of basic technology specifically in universal basic education (UBE) schools, in ONELGA. It is to look at the concept of teaching and learning and there various theories, and various processes (strategies) that can be put in place to improve the way and manner in which teaching and learning take place in a (UBE) school environments. It will also go further to see if utilization of instructional material, provision of workshop facilities, training and Re-training of teachers can be strategies for improving the teaching and learning of Basic Technology in (UBE) in (ONELGA) Rivers state.

Geographically, this project work will be carried out in four public universal basic education schools, where Basic Technology is being thought in ONELGA, Rivers State.

**Chapter Two**

**REVIEW OF RELATED LITERATURE**

This chapter is presented under the following sub-headings

**Conceptual Framework**

* Teaching and learning
* Concept of learning
* Concept of teaching
* Instructional material in teaching and leaning
* Importance of instructional material
* Utilization of Instructional Material for Improving Teaching and Learning
* Training and retraining of teachers
* Provision of workshop facilities for improving teaching and learning

**Theoretical framework**

* Cognitive Load Theory
* Experiential learning

**Related empirical studies**

**2.1.1 Teaching and learning**

Teaching and learning is a process that includes many variables. These variables interact as learners work toward their goals and incorporate new knowledge, behaviors, and skills that add to their range of learning experiences. Good teachers nurture their knowledge and skills through constant and deliberate efforts. One of the prerequisite to be good teacher is to understand the teaching learning process in more depth. This facilitates better appreciation of the teaching profession as well as the process of imparting education. This paper is intended to give an insight into the concept of teaching and learning for teachers who intend to excel in their teaching career. As teachers we tend to think that teaching is all about teachers and our role; in fact the most important aspects of the educational process are the students and what they learn.

**2.1.2 Concept of Learning**

Learning is about a change: the change brought about by developing a new skill, understanding a scientific law, changing an attitude. The change is not merely incidental or natural in the way that our appearance changes as we get older. Learning is a relatively permanent change, usually brought about intentionally. When we attend a course, search through a book, or read a discussion paper, we set out to learn! Other learning can take place without planning, for example by experience. Generally with all learning there is an element within us of wishing to remember and understand why something happens and to do it better next time.

**2.1.3 Concept of Teaching:**

Teaching is a set of events, outside the learners which are designed to support internal process of learning. Teaching (Instruction) is outside the learner. Learning is internal to learners. You cannot motivate others if you are not self-motivated. Motives are not seen, but, Behaviors are seen. Is learning a motive or behavior? Learning is both a motive and behavior but only behavior is seen, learning is internal, performance is external.

**2.1.4 Instructional material in teaching and learning**

Instructional materials refer to those alternative channels of communication, such as projectors, chats, pictures, audio and videos etc., which a classroom teacher can use to concretize a concept during teaching and learning process. Traditionally, classroom teachers have relied heavily on the 'talk-chalk' method during their teaching. But recently, instructional materials help to provide variations in the ways in which messages are sent across. In using instructional materials teachers and students do not only extend the range of sense organs we use but also extend the range of materials used for convening the same message through the same organ*.* For instance, in teaching a topic a teacher can manipulate real objects or use their stimulators. Instructional materials therefore constitute the media of exchange through which a message transaction is facilitated between a source and a receiver. In addition to extending the range of materials that can be used to convey the same instructional message to learner’s instructional materials also facilitate the 'process' nature of communication. In this passage, the process nature of communication implies that both the source and the receiver of a message are actively involved in a communication encounter. Infarct, it means that both the receiver and the source share and exchange ideas, feelings in any communication (Tyler, 2016).

**2.1.5 Importance of instructional materials:**

1. The essence of producing instructional materials is to facilitate the teaching learning process. The essence is not to use such instructional materials as objects of decoration in our classroom or as objects to be presented during award winning national exhibitions on improved instructional materials. If the essence of producing instructional materials is to use such materials to facilitate teaching learning, it therefore seems logical that the best approach to adopt in any production exercise is to predict out production on research findings on how individuals learn. Besides, there are for instance, many factors that affect attention of human beings. There are also ideas about how we perceive objects. Hence, for a classroom teacher, who wants .to produce instructional materials, his production has to be on sound principles.
2. While presenting various learning theories, one has to be sure that a classroom teacher is guided by expert ideas during his production and utilization of instructional materials.
3. Instructional materials have a high degree of interest for the learner; for they offer a reality of experience, which stimulates self-activity on the part of pupils.
4. Instructional materials develop a continuity of thought, this is especially true of motion pictures, as they provide experiences not, easily obtained through other materials and contribute to the efficiency, department and variety of learning.

Therefore, the use of instructional materials in teaching/learning process exposes the learner to primary experiences and this enriches learning.

**2.1.6 Utilization of Instructional Material for Improving Teaching and Learning**

Technologies have advanced over the years, so have teaching methods. From the one-to-one oral teaching style of the early agrarian age in the pre-writing and pre-printing cultures to the apprenticeship system and one-to-many lectures of the pre-industrial ages that heralded the writing and print cultures, teaching was predominantly oral (The Standard, Wednesday, September 8, 2010). The development of printing however set the stage for a literary-based mode of teaching which emphasizes the preservation of knowledge and promoting abstract and analytical thought. Since Instructional media has been used in teaching and learning for a long time, Educationists advise the use of instructional media to stimulate the learning environment. Instructional media enhances and facilitates learning (Dike 2010) and this leads to faster and enjoyable learning. This kind of learning is preferred by students as compared to the traditional methods in which all knowledge is a preserve of the teacher and learners are passive recipients of this knowledge. When instructional media is integrated into the learning process, greater learning is accomplished in less time Smith (2001). Smith further observes that instructional media is very effective in the teaching and learning process by providing concrete experiences, increasing retention, developing continuity if thought and providing variety in learning.

**2.1.7 Provision of workshop facilities for improving teaching and learning**

Adeogun (2001) discovered a very strong positive significant relationship between instructional resources and academic performance. According to Adeogun, schools endowed with workshops and laboratory performed better than schools that are less endowed. This corroborated the study by Babalola, (2000) that private schools performed better than public schools because of the availability and adequacy of teaching and learning materials such as wheel barrows, machines, spanners, screw drivers etc. Chapman (2005) also supports that students performance is affected by the quality and quantity of teaching and learning materials. The author noted that institutions with adequate facilities such as laboratory stand a better chance of performing well in examination than poorly equipped ones. Therefore, poor performance could be attributed to inadequate teaching and learning materials and equipment.

**2.1.8 Training and retraining of teachers**

Retraining of teachers can help reduce mistakes and increase innovation in the teaching profession. The purpose of retraining is to update develop and broaden the knowledge that teachers had acquired during the initial teacher education and/or provide them with new skill and professional understanding which in turn benefit the leaner’s. Teachers should attend retraining to improve their performance and knowledge, especially to be able to make students understand more by giving less complex explanation, is can only be possible when training or retraining has taken place. Also it improves the effectiveness of the teacher in the teaching process.

**2.2 Theoretical Framework**

**2.2.1 Cognitive Load**

This study was based on John Sweller’s Cognitive Load Theory (1988). This theory states that the ability to learn or the mental capacity of a learner is limited to the learners' age and mental ability and that learners may receive overwhelming information in terms of too much content or complex concepts and when the instructional materials are not properly utilized, this will result in over-load where students are provided with more content than they can learn or handle. This impairs the schema or outline of the planned lesson objectives for acquisition resulting in lower performance or less learning on the part of the student (Sweller, 1988). This theory suggests that learning happens best under conditions that are aligned with human cognitive architecture or mental structures, pictures or images that learners build from what they learn through visual and auditory perception with the aid of instructional media. Learning is limited in the number of elements it can contain simultaneously unless enhanced by use of instructional media; The Cognitive Load theory helps in understanding the combination of elements, as the cognitive structures that make up an individual’s knowledge base (Sweller, 1988). When teachers use instructional material, they intentionally choose a means of presenting information. Instructional strategies may vary depending on content but may range from organizational strategies, sequencing, cues, feedback, orienting or question techniques, and this should involve different types of media and this will result in enhanced learning. This theory was important in instructional media use. For example where a text was well understood, a diagram, print or video screen had reduced the complexity of its meaning and this enhanced learning when the selected medium aided the learners’ understanding of the presented concept. The absence of media as an integral part of the whole teaching and learning process provided great difficulty on the part of the learner to effectively learn. The interrelationship between instructional media and enhanced learning became therefore a matter of central concern of researchers Dike (2000). This theory was suitable for the study because it embraced both students’ aspect and teacher’s aspect of use of Instructional Media in teaching and learning.

**2.2.2 Experiential learning**

Experiential learning is about the learner experiencing things for themselves and learning from them. Kolb (1984) proposed a four stage model known as the experiential learning cycle. It is a way by which people can understand their experiences and, as a result, modify their behavior. It is based on the idea that the more often a learner reflects on a task, the more often they have the opportunity to modify and refine their efforts. The process of learning can begin at any stage and is continuous, i.e. there is no limit to the number of cycles which can be made in a learning situation. This theory suggests that without reflection, people would continue to repeat their mistakes.

**2.3 Related Empirical Studies**

Miller, Bakare and Ikatule (2010) carried out a study to determine the professional capacity building needs of teachers for effective teaching of basic technology curriculum to students in junior secondary schools in Lagos State. Three research questions guided the study. A survey research design was employed for the study. The population for the study was 550 teachers of basic technology for junior secondary schools. Random sampling technique was used to obtain 250 teachers for the study. Three sets of structured questionnaire items were developed and used to collect data from the teachers of basic technology in junior secondary schools. Cronbach alpha reliability method was adopted to determine the internal consistency of the questionnaire items; values of 0.80, 0.84 and 0.81 were obtained for the sets of questionnaire respectively. Data collected were analyzed using weighted mean and improvement needed index (INI). It was found out in the study that teachers need capacity building in all areas of instruction in the junior secondary schools basic technology curriculum content. This study is related to the present study in that they both look at ways of improving the way the content of basic technology is being thought. They also differ in the sense that while this study looks at ways to improve the way the curriculum is being implemented the other study looks at the contents of basic technology curriculum.

**Chapter Three**

**METHODOLOGY**

This chapter is presented under the following sub-headings

* Design of the study
* Area of the study
* Population of the study
* Sampling an sampling techniques
* Instrument for data collection
* Validation of instrument
* Reliability of instrument
* Method of Data Collection
* Method of data analysis

**3.1 Design of the Study**

This study adopts a descriptive research design. Nwokocha (2010) defined descriptive design as a method of data collection in which questionnaires or interview are utilized in collection of data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized. It was used because it tends to find out peoples opinion and preference through the use of questionnaires. More so, it is used to obtain information concerning the current status of the phenomena to describe what exists, with respect to the variable or condition in a situation.

**3.2 Area of the study**

The geographical location of the population of the study is called the area of the study Nwokocha (2010). The study area will be the OGBA/EBEMA/NDONI local government area of Rivers state. Omoku is located at coordinate 5.342°N and 6.656°E Nigeria, at the northern part of rivers state near the boundary with Delta state and Imo state with an estimated population of about 160,000 people. It is the capital of OGBA/EGBEMA/NDONI Local Government Area (ONELGA) and one of the major cities of OGBA people (the world gazetteer, 2013).

**3.3 Population of the Study**

As stated by Nwokocha (2010) population of the study is the totality of persons whom the results of the study will be generalized to. The population of this study therefore comprises of basic technology instructors and students of the UBE scheme in government schools of ONELGA, Rivers state. table one shows the data of the number of teachers and students in selected schools in ONELGA.

**Table 1**

|  |  |  |  |
| --- | --- | --- | --- |
| S/N | SCHOOL | NUMBER OF TEACHERS | NUMBER OF STUDENTS |
| 1 | MODERN BOYS SECONARY SCHOOL | 51 | 683 |
| 2 | COMMUNITY GIRLS SECONDARY SCHOOL OMOKU | 44 | 67 |
| 3 | COMMUNITY SECONARY SCHOOL OMOKU | 68 | 800 |
| 4 | COMMUNITY SECONDARY SCHOOL EBOGORO | 41 | 228 |
| 5 | COMMUNITY PRIMARY SCHOOL AHIA-MEETING.INDONI | 15 | 135 |

**Source: Universal basic education board (ONELGA zone)**

**3.4 Sampling and Sampling Techniques**

The sample size for this study will be Two hundred (200). A simple random sampling technique will be used because it gives every research subject the equal chance of being selected

**3.5 Instrument for Data Collection**

The instrument for data collection will be a structured questionnaire titled: Strategies for Improving the Teaching and Learning of Basic Technology in ONELGA Rivers State. It will be arranged in two sections. Section A will contain information on demographic data of respondent, while section B will be designed to gather information on strategies for improving the teaching and learning of basic technology in Rivers state. The questionnaire will be structured in four (4) point rating scale of very high extent (VHE) high extent (HE) low extent (LE) very low extent (VLE)

**3.6 Validation of Instrument**

The degree to which an instrument measures what it is supposed to measure is validation Nwokocha (2010). The instrument for this study will be given to three experts from the department of Industrial Technical Education of Federal College of Education (Technical) Omoku. The expert will be guided by copies of the topic, purpose of the study, and research questions. The experts will be requested carry out proper scrutiny and correction, and inputs will be made which will be implemented by the researcher to ascertain the instruments be valid to the study. Specifically, the researcher will sought them and make appropriate observations, corrections and proffer advices. The researcher will thereafter incorporate the new ideas to make the research valid.

**3.7 Reliability of the Instrument**

Nwokocha (2010) defined reliability as the degree of consistency of test results obtained from the same individual or group of individual on two or more occasions using the same instrument. The instrument was administered to 50 students from community secondary school Ebogoro ONELGA, Rivers State twice within the interval of 2 weeks. The result of the two tests was carefully correlated using Pearson’s Product Moment Correlation Coefficient (PPMCC) method which yielded a coefficient of 0.88 depicting that the instrument was reliable to be used for the study.

**3.8 Method of Data Collection**

The researcher administered the instruments directly on the respondents. Items of the instrument and the method of response were adequately explained to the respondents, the instrument was retrieved by the researcher on the spot after completion

**3.9 Method of Data Analysis**

The data generated for this study was analyzed statistically using mean statistics.

The formula:

X = ∑FX/N

Was used

**Where:**

X= Statistical Mean

X= Four rating scale (4, 3, 2 and 1)

F= Number of respondents to each question

N= Total number of respondents

The summation of the rating scale =

4321 = 10

4 4 **2.5**

Therefore, the cut- off mean (x) = 2.5

**Decision Rule:** the following decision was applied

* Response with mean values of 2.5 and above was accepted.
* Response with mean values below 2.5 was rejected.

**CHAPTER FOUR**

**DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS**

This chapter deals with analysis of data, presentation and discussion of findings.

**4.1 Data Presentation and Analysis**

**Research Questions 1:**

To what extent dose utilization of instructional material improve the teaching and learning of Basic Technology?

**TABLE 1: Average Weighted Mean Response on the strategies for improving the teaching and learning of basic technology in ONELGA local Government area, Rivers state**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **QUESTIONNAIRE ITEMS** | **VHE** | **HE** | **LE** | **VLE** | **F** | **X** |
| 1 | To what extent dose instructional material facilitates teaching and learning in the class room | 91 | 50 | 10 | 49 | 200 | 2.9 |
| 2 | To what extent dose the use of instructional material save learning time | 100 | 89 | 11 | 0 | 200 | 3.4 |
| 3 | To what extent dose learning takes place when instructional materials are used | 27 | 140 | 30 | 3 | 200 | 2.9 |
| 4 | To what extent dose the use of audio visual and physical instructional material prove to make the teaching and learning process more fruitful | 78 | 87 | 15 | 20 | 200 | 3.1 |
| 5 | To what extent dose the teaching process goes smoothly when instructional materials are being used | 40 | 93 | 37 | 30 | 200 | 2.7 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
| **Average Weighted Mean** |  |  |  |  |  |  | **3.0** |

Table 1 indicates that majority of the respondents accepted that utilization of instructional material improve the teaching and learning of Basic Technology in ONELGA Rivers state, with mean value of 2.9, 3.4, 2.9, 3.1, and 2.7. Average Weighted Mean of 3.0 obtained from questionnaire items 1-5 show that utilization of instructional material is a strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.

**Research Questions 2:**

To what extent dose provision of workshop facilities improve the teaching and learning of Basic Technology?

**TABLE 2: Average Weighted Mean Response on the strategies for improving the teaching and learning of basic technology in ONELGA local Government area, Rivers state**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **QUESTIONNAIRE ITEMS** | **VHE** | **HE** | **LE** | **VLE** | **F** | **X** |
| 6 | To what extent dose Provision of workshop tools and equipment’s eases the teaching and learning process | 57 | 83 | 41 | 19 | 200 | 2.8 |
| 7 | To what extent dose a conducive workshop environment make learning takes place with ease | 143 | 20 | 29 | 8 | 200 | 3.4 |
| 8 | To what extent dose Students learn better when practical related topics are thought in the workshop, rather than the class room | 108 | 43 | 37 | 12 | 200 | 3.2 |
| 9 | To what extent dose Students perform better in workshop (practical) related topics than theoretical (not practical oriented) classes | 24 | 42 | 41 | 93 | 200 | 1.9 |
| 10 | To what extent dose Workshop gives room for team work and sharing of ideas | 51 | 73 | 0 | 76 | 200 | 2.4 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Average Weighted Mean** |  |  |  |  |  |  | **2.8** |

Table 2 indicates that majority of the respondents accepted that provision of workshop facilities improve the teaching and learning of Basic Technology in ONELGA, Rivers state with mean value of 2.8, 3.4, 3.2, 1.9 and 2.4. Average Weighted Mean of 2.8 obtained from questionnaire items 6-10 shows also that the provision of workshop facilities is a strategy for improving the teaching and learning of Basic Technology.

**Research Question 3:**

To what extent dose training and re-training of teachers improve the teaching and learning of Basic Technology?

**TABLE 3: Average Weighted Mean Response on the strategies for improving the teaching and learning of basic technology in ONELGA local Government area, Rivers state**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **QUESTIONNAIRE ITEMS** | **VHE** | **HE** | **LE** | **VLE** | **F** | **X** |
| 11 | To what extent dose Re-training improves the teachers knowledge of what basic technology is all about | 97 | 33 | 50 | 20 | 200 | 3.0 |
| 12 | To what extent dose Re-training provides more ground for clarity on the latest teaching methods | 24 | 38 | 41 | 97 | 200 | 1.9 |
| 13 | To what extent dose Re-training helps the teacher to set more tangible goal when teaching a lesson | 54 | 21 | 62 | 63 | 200 | 2.3 |
| 14 | To what extent dose Re-training gives room for development of more preferable methods of teaching | 55 | 105 | 13 | 27 | 200 | 2.9 |
| 15 | To what extent dose Re-training helps the teacher build him/her self generally | 49 | 89 | 28 | 34 | 200 | 2.7 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Average Weighted Mean** |  |  |  |  |  |  | **2.6** |

Table 3 indicates that majority of the respondents accepted provision of workshop facilities improve the teaching and learning of Basic Technology in ONELGA Rivers State, with mean value of 3.0, 1.9, 2.3, 2.9 and 2.7. Average Weighted Mean of 2.6 obtained from questionnaire items 11-15 shows that provision of workshop facilities is a strategy for improving the teaching and learning of Basic Technology in ONELGA Rivers State.

* 1. **Discussion of Findings**

Findings from research question one (1) shows that respondent to a high extent agree that utilization of instructional material improves the teaching and learning of basic technology in UBE in ONELGA Rivers State. This is in line with the findings of Smith (2001) which states that instructional material is very effective in the teaching and learning process by providing concrete experience’s, increasing retention, developing continuity.

Further findings from research question two (2) shows that respondent to a high extent agree that provision of workshop facilities is a strategy for improving the teaching and learning of basic technology in UBE in ONELGA Rivers State. This is in line with the findings of Adeogun (2001) that schools with workshop facilities perform better than dose that are less endowed. Chapman (2005) added that student’s performance is affected by the quality of teaching and learning material made available.

Lastly, the findings from research question three (3) shows also that the respondent to a high extent agree that training and retraining of teachers is a strategy for improving the teaching and learning of basic technology in UBE in ONELGA Rivers state. the respondent further agreed that retraining improves the effectiveness of the teacher in the teaching process, also that the main purpose of retraining is to help develop and Broaden the knowledge that teachers had acquired and also provide them with new skills and professional understanding which ill in turn benefit the learners

**CHAPTER FIVE**

**SUMMARY, CONCLUSION AND RECOMMENDATIONS**

**5.1 Summary**

The study focuses on the strategies for improving the teaching and learning of basic technology in ONELGA Rivers State. The specific purpose of the study was to determine if utilization of instructional material is strategy for improving the teaching and learning of basic technology in ONELGA Rivers State also to determine if the provision of workshop facilities is a strategy for improving the teaching and learning of basic technology in ONELGA Rivers State and also to determine if the training and retraining of teachers is a strategy for improving the teaching and learning of basic technology in ONELGA Rivers State. Various Research Questions was raised to help elicit this study which is as follows;

1. To what extent dose utilization of instructional material improve the teaching and learning of Basic Technology?
2. To what extent dose provision of workshop facilities improve the teaching and learning of Basic Technology?
3. To what extent dose training and re-training of teachers improve the teaching and learning of Basic Technology?

The population of the study consists of UBE students and teachers from selected schools in Omoku ONELGA Rivers State, the sample size consist of 200 respondents randomly selected from UBE schools in Omoku ONELGA Rivers State. The research questionnaire was analyzed using average weighted mean. The instrument used for data collection is a structured questionnaire titled ″strategies for improving the teaching and learning of basic technology in ONELGA, Rivers State (SITLBTORS) ″ containing 15 test items structured in a modernized four (4) point scale of strongly agreed (SA), agreed (A), disagreed (D) and strongly disagreed (SD).The decision holds that any mean that is 2.50 and above is accepted while any mean value below 2.50 is regarded as rejected.

The findings of the study show that:

1. Utilization of instructional material is a strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.
2. Provision of workshop facilities is a strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.
3. Training and re-training of teachers is a strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.

**5.2 Implication of findings**

Following the findings made on this study “strategies for improving the teaching and learning of basic technology in ONELGA Rivers State”. Based on the three research questions, it is believed that;

* Utilization of instructional material has a positive impact as strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.
* Provision of workshop facilities has a positive impact as a strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.
* Training and re-training of teachers has a positive impact as a strategy for improving the teaching and learning of Basic Technology in ONELGA, Rivers state.

**5.3 Conclusion**

Functional technological education is the main stay of achieving sustainable development and as such basic technology teachers should endeavor to bring this to reality while government on its part should provide all the enabling environment that would bring this to reality; by extension too students should ensure they take this subject serious while their parents should make sure they give all necessary encouragement for their ward to succeed.

**5.4 Recommendations**

Based on the finding of this research, the following recommendations are hereby made;

1. Teachers in should try as much as they can to utilize the instructional materials provided by the schools or the government
2. Students in UBE schools should know the best teaching method that will enhance their learning ability.
3. Government and school administrators should make policies that will mandate the teachers to conduct practical oriented classes.

**5.5 Limitations of the study**

It would have been worthwhile to cover the whole UBE schools in ONELGA Rivers State Nigeria, but as a result of time and financial constraints, the researcher restricted the study to only some selected UBE schools in Omoku ONELGA Rivers State.

**5.6 Suggestion for Further Studies**

It is hoped that future studies would look into what role students and parents need to play as strategy for improving the effective teaching and learning of basic technology in UBE schools.

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**APPENDIX 1**

Federal College of Education

(Technical)

P.M.B 11, Omoku

School of Technical Education

Department of Electrical Electronics Technology

Dear respondent

I am an undergraduate student of the above named university and department undertaking a research work on the topic; STRATEGIES FOR IMPROVING THE TEACHING AND LEARNING OF BASIC TECHNOLOGY IN OGBA/EGBEMA/INDONI LOCAL GOVERNMENT AREA OF RIVERS STATE. I therefore solicit for your assistance in responding sincerely to the questions established to enable me achieve the objectives of this study.

All information that will be given is purely for academic purpose and shall be treated as confidential

Thanks for your cooperation

Yours faithfully

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**ONYEDIBIA OKEOMASILACHI**

(*Researcher*)

**Questionnaire on Strategies for Improving the Teaching and Learning of Basic Technology in OGBA/EGBEMA/INDONI local Government area of Rivers state**

**INSTRUCTIONS:**

Tick [ ] as appropriate

KEY: very high extent [VHE]

High extent [HE]

Low extent [LE]

Very low extent [VLE]

**Section A**:

**Demographic data**

1. Name of school;\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Teacher [ ] instructor [ ] student [ ]
3. Sex: male [ ] female [ ]

**Section B:**

**Cluster A**: To what extent is the utilization of instructional material a strategy for improving the teaching and learning of basic technology in ONELGA?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **ITEMS** | **VHE** | **HE** | **LE** | **VLE** |
| 1 | To what extent dose instructional material facilitates teaching and learning in the class room |  |  |  |  |
| 2 | To what extent dose the use of instructional material save learning time |  |  |  |  |
| 3 | To what extent dose learning takes place when instructional materials are used |  |  |  |  |
| 4 | To what extent dose the use of audio visual and physical instructional material prove to make the teaching and learning process more fruitful |  |  |  |  |
| 5 | To what extent dose the teaching process goes smoothly when instructional materials are being used |  |  |  |  |

**Cluster B**: To what extent is provision of workshop facilities a strategy for improving the teaching and learning of basic technology in ONELGA?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **ITEMS** | **VHE** | **HE** | **LE** | **VLE** |
| 6 | To what extent dose Provision of workshop tools and equipment’s eases the teaching and learning process |  |  |  |  |
| 7 | To what extent dose a conducive workshop environment make learning takes place with ease |  |  |  |  |
| 8 | To what extent dose Students learn better when practical related topics are thought in the workshop, rather than the class room |  |  |  |  |
| 9 | To what extent dose Students perform better in workshop (practical) related topics than theoretical (not practical oriented) classes |  |  |  |  |
| 10 | To what extent dose Workshop gives room for team work and sharing of ideas |  |  |  |  |

**Cluster B**: To what extent is training and re-training of teachers a strategy for improving the teaching and learning of basic technology in ONELGA?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **ITEMS** | **VHE** | **HE** | **LE** | **VLE** |
| 11 | To what extent dose Re-training improves the teachers knowledge of what basic technology is all about |  |  |  |  |
| 12 | To what extent dose Re-training provides more ground for clarity on the latest teaching methods |  |  |  |  |
| 13 | To what extent dose Re-training helps the teacher to set more tangible goal when teaching a lesson |  |  |  |  |
| 14 | To what extent dose Re-training gives room for development of more preferable methods of teaching |  |  |  |  |
| 15 | To what extent dose Re-training helps the teacher build him/her self generally |  |  |  |  |