**PROBLEMS AND POSSIBLE SOLUTION OF TEACHING AND LEARNING COMPUTER SCIENCE IN JUNIOR SECONDARY SCHOOLS**

**Abstract**

This study was conducted to determine science in Junior Secondary Schools in Enugu Educational Zone. In order to carry out this study effectively two (2) research questions were asked and answered. Which are; what are the major problems of teaching and learning computer science in Junior Secondary Schools in Enugu Educational Zone and how can such problems be tackled? The instrument used is questionnaire. Data obtained where analyzed are many problems yet to be solved in teaching and learning computer science especially lack of qualified teachers and computer in our Junior secondary schools

**CHAPTER ONE**

**INTRODUCTION**

* 1. **Background of the study**

The Education by the end of the 20th century no longer prepares individuals to secure white colar Jobs or life long employment in local industries or services. Rather education is for individuals and National developments. Similarly, the major objective of education is to bring about desirable change in behaviour in individuals and society at large. Abimade (1998) stated that the realization of the noblerole of computer in man’s quest for or comfortable living has today necessitated the introduction of computer as a curriculum in all the levels of our education institution. Recently, computer science students was introduced in the state to few selected secondary schools in Enugu education zone in (2000/2001) academic session by education resources teachers by contract from western part of the country. Unfortunately, there are myriad problems that are still hampering the proper take off of the studies in our Secondary Schools in Nigeria at large and Enugu State in particular. Some of these problems can be classified as lack of computer science teaches and computer components in our Schools. The  very few teachers that are available were posted to selected urban schools. The result is that computer studies has not started well in Enugu State in as much as it has not been registered in JSSCE examination. Even in urban schools the number of computer teaches are grossly inadequate not to talk of rural schools. That may be why Okeke (2008) stated that he State Ministry of education may only register students in computer studies in JSSCE when the product of Enugu State college of education and other higher institutions may have produced enough teachers to go round the state secondary schools. These trained teachers would definitely provide the teaching that one required in the secondary schools.

        Therefore, the statement problem of this study put as a question is:-

**1.2 STATEMENT OF THE PROBLEM**

The How fast the world has grown, from the days of the primitive man, to the days of the medieval man and down to the day of the modern man. The world at large seen by the myopic man as two ends two far to be reached, has so soon been conquered by great minds. It is generally believed that education is the bed rock for every technological and economic development of any Nation. As a result of that, the three (3) tiers of governments are trying to reform educational system through training of teachers by giving them scholarships, good conditions of service, enhanced salaries and pay them salaries as at when due. Despite this efforts made by the governments, there is still persistent increase in failure rate as always indicated in the annual reports by the national examination bodies such as WAEC, NECO, NATEB and JAMB. The failure rate has led to numerous researches that looked at the teachers’ method of teaching, teachers’ characteristics, teachers attitude and students’ attitudes towards education and its attendant effects on academic performance of students as a result of the failure rate, the teaching process seems to move from teacher centred to student-centred method of teaching, yet the story almost remain the same many studies have revealed that students have poor attitude towards education and as a result of that academic performance is affected negatively. Hence, for many years now in Nigeria, many people are in doubt of the quality of products of her education from primary, post primary and tertiary institutions. Education discourse on poor academic performance seems to be the issue of the day. Minds that saw the possibility of turning this vast globe too large to be explored into a global village, where the distance between two ends could be reached in split seconds. Much could be said about such great minds as Socrates, Plato, Aristotle, men who through sound reasoning, birth fourth great ideas, that has so much impacted the world. But I believe that much more could be said about a set of men born in a particular generation, without whose contribution, the world would have remained a vast globe, whose two ends could never be reached in split seconds. Men whom through their great inventions conquered the barrier of time and distance, through whose inventions one of the greatest gift to mankind was delivered, i would take a deep breath at this point to mention “The computer”.
Thanks to Charles Barbbage, John Nappier, Lady Ad Lovelace, and others for such great inventions. Without the computer, our world could not be complete, education with all its great prospects as a process of successfully training the young and instilling the moral values and otherwise into them could never be complete. Perhaps computer literacy may improve the knowledge and ability of students for higher academic performance. Computer literacy is the knowledge and ability to use computer and technology efficiently. Computer literacy can also be referred to the comfort level someone has by using computer programmes and other application that are related to computers. The occurrence of computer literacy continues to grow at an outstanding rate. A computer is an electronic device that has the ability to accept data, store data, process data by following a set of instructions (programme) to produce result. Computer always change; they become smaller, faster and more powerful. These changes have motivated the modern society to become comfortable with basic computer related skills. How would the Enugu State government produce computer science teachers that could effect teaching/learning computer studies  effectively in our secondary schools

**1.3 PURPOSE OF THE STUDY**

This study investigated the problems and possible solutions of teaching / learning computer science in Junior Secondary Schools Enugu Education Zone. Specifically the study sought to find answers to the following specific objective

1. To ascertain the role of government in aiding effective teaching of computer science in secondary school
2. To investigate the impact of instructional material in the teaching of computer science
3. To ascertain the effect of computer literacy level on teaching computer science.
4. To proffer suggested solutions to the identified problem

**1.4 RESEARCH HYPOTHESES**

To aid the completion of the study, the following research hypotheses were formulated by the researcher;

**H0:** government does not play any role in aiding effective teaching of computer in secondary schools by teachers

**H1:** government does play a role in aiding effective teaching of computer in secondary schools by teachers

**H02:** computer literacy level of the teachers does not affect proper teaching of computer science in secondary schools

**H2:** computer literacy level of the teachers does affect proper teaching of computer science in secondary schools

**1.5 RESEARCH QUESTIONS**

1.  What are the major problems of teaching and learning computer science in Junior Secondary Schools in Enugu education zone?

2.  How can such problems be tackled?

**1.6 SIGNIFICANCE OF THE STUDY**

This study may highlight the problems that hamper proper take off of Computer studies in Enugu State. These study might suggest the problem of lack of teacher for Computer solutions for the Ministry of Education. The study may provide some adhoc decisions for the principals in the course of teaching Computer Science. It may also suggest possible text books that may be recommended for the students and few teachers. Nigerian secondary schools today lack behind in the computer science subject in comparison to some well developed countries. In this sense, the significance of this study cannot be over emphasized since the result from this investigation could help in setting standard requirements for computer science teachers, and help identify the basic challenge facing teachers, which if well treated could enhance teacher’s effectiveness and student learning in Nigerian secondary schools. Also, the growth of a nation starts from the grassroots level, if education at the local government level is well maintained, on the long run it may affect the education at the state level in general, following this investigation therefore, computer science in secondary school.

**1.7 SCOPE OF THE STUDY AND LIMITATION OF THE STUDY**

This study focused on investigating the problem and possible solutions of teaching/learning computer science in Junior Secondary Schools in Enugu education Zone. The study used JSS 2 students in Secondary Schools in Enugu, Enugu Education Zone because there is no registration of Computer studies in JSSCE.

**(a)Availability of research material:** The research material available to the researcher is insufficient, thereby limiting the study.

**(b)Time**: The time frame allocated to the study does not enhance wider coverage as the researcher has to combine other academic activities and examinations with the study.

**(c)Finance:** The finance available for the research work does not allow for wider coverage as resources are very limited as the researcher has other academic bills to cover

**1.8 DEFINITION OF TERMS**

**Computer:** A computer is a machine or an apparatus that manipulate data according to a list of instructions, whose end product (output) may be expressible in numerical or logical terms.
**Teaching:** Teaching could be defined as the process of transferring knowledge or the activities of educating or instructing with the aim of impacting knowledge or skill from a generation to another.
**Problem:** A problem could be defined in this context as a question proposed from academic discussion or scholastic disputation or a continued or imagined situation in which the task is to produce or prove some specified result by the exercise of thought.
**Investigation:** The action or process of investigating, careful research, or an instance of systematic inquiry or careful study of a particular subject.

**1.9 ORGANIZATION OF THE STUDY**

This research work is organized in five chapters, for easy understanding, as follows Chapter one is concern with the introduction, which consist of the (overview, of the study), statement of problem, objectives of the study, research question, significance or the study, research methodology, definition of terms and historical background of the study. Chapter two highlight the theoretical framework on which the study its based, thus the review of related literature. Chapter three deals on the research design and methodology adopted in the study. Chapter four concentrate on the data collection and analysis and presentation of finding. Chapter five gives summary, conclusion and also recommendations made of the study.

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

**2.1 Introduction**

The mission of any school is to provide adequate teaching and learning for the students. School administrators perform many professional and administrative functions in order to achieve the goals of the institutions. One of the critical administrative functions of a school administrator is instructional supervision. Instructional supervision is the overseeing and guiding the teaching and learning process in an academic institution. Kochlar (2005), sees instructional supervision as those activities which are primarily and directly concerned with studying and improving the conditions which surround the learning and growth of pupils, and that whatever is done to improve on the teachers ability to deliver lessons to improve on pupils’ learning. Eya and Chukwu (2012) saw instructional supervision in schools merely as a process for teachers’ improvement purposes which include among other things ensuring that teachers perform their assigned functions. The school administrator supervises the teachers in order to ensure that there is effective teaching and learning. The school inspectors from the Ministry of Education are supposed to see that this function of instructional supervision is properly carried out in various schools by various school administrators. Presently as observed by Ifedili (2013) that jobs have been so much humanized because of the contribution of the Modern Theorists. The gesture seems to be effective depending to a greater extent on the discipline of individuals within the system. An organizational survival depends to a larger extent on the willingness of individuals within the system to sacrifice a degree of individuality and to conform to certain behavioral norms. Ifedili (2010) has shown that Theory Y of McGregor is not applicable in Nigeria. This theory believes that workers are responsible and can perform well without closed supervision. In Nigeria, productivity increases with close supervision because of cultural differences, level of education and standard of living For school administrators, there is need for proper time utilization and goal setting. According Ifedili (2002), principals or school administrators who utilize their time well and set goals achieve more and are more focused. She also found that both male and female public and private secondary school administrators were rated low in time utilization and goal setting. An educational administrator needs his or her intelligence, skills, aptitude, ideas, energy, creativity and time in setting his or her goals. The quality of education given to the citizenry to a larger extent depends on the implementation of policy provision and one of these is employment of qualified teachers. The quality of teachers is one of the determinants of quality in educational system. Who is a teacher? According to Odebumi (1982), a teacher is one who is resourceful, has a good sense of humors, possesses sound knowledge of human psychology, communicates effectively and shows interest in the welfare of the students; he guides and motivates and is patient, tolerable, flexible in his ways, fair in his judgments and firm in his discipline. Teachers are vital human resources in the training of the young minds. A teacher is a nation builder. He or she is accountable to the students or pupils, parents, community, employers and to the teaching profession. A trained teacher is expected to be responsible and initiative. He or she should be able to put in his or her best without having to be pushed around.

**2.2 CONCEPTUAL REVIEW**

Management is very important in the life of any organization in view of the fact that without management, there can be no effective productivity. The term management has been defined by various authors and management experts differently. Mgbodile (2004) articulated that management is leadership which is aimed at influencing group activity toward goal 16 achievement. This definition implies that in order to ensure the achievement of the goals of an establishment there has to be effective management of both human and material resources. Akubue in Ogbonnaya and Ajagbaonwu (1997) refers to management as a process where a group of people at the highest level of organization, plan, organize, communicate, coordinate, control and direct the actions and activities of people who work for the organization towards the achievement of organizational goals or objectives. According to Donnelly (1987), management is a process undertaken by two or more individuals to coordinate the activities of others to achieve results not achievable by an individual acting alone. Presenting his own view, Egbe in Ogbonnaya and Ajagbaonwu (1997) maintained that, management or administration involves the utilization of available resources in the accomplishment of the stated objectives of an organization. The existence of management in any organization is therefore to add strength to the organization in order to achieve its objectives. Equally, Jackson and Verman (1984) presented the conception of management as the process of planning organizing, directing and controlling the activities of an enterprise in order to achieve specific objectives. Adesina (1990) maintained that management is the organization and mobilization of all human and material resources in a particular system for the attainment of the envisaged goals educational system, the various inputs, including the learning resources are usually processed through various teaching-learning and administrative processes.

**2.3 THE CONCEPT OF LEARNING RESOURCES**

The term learning resources generally refers to those materials that are used in the classroom to enhance teaching and learning. Learning resources are materials employed by the teachers to improve the effectiveness of instruction. They are the source which provides information for required learning experience. It is a source from which useful information can be obtained by the learners for the attainment of particular instructional goals. Onyejemezi described school resources as devices, methods or experiences used for teaching purposes including textbooks, supplementary reading materials, audio visual and other sensory materials used for effective teaching and learning. It includes all materials and equipment used in connection with the teaching of a lesson or a subject. She further opined that resource materials refer to all materials that enhance effective teaching and learning. Those materials embrace both the locally made ones and the imported materials, Azikiwe (1985), Offorma (1987) and Ocheri (1987) maintained that to be able to effect the desired change in behaviour of the learners. It must be through the learners’ active and meaningful participation. The teacher should use a number of devices to enhance his teaching. Similarly, the learners are expected to use a number of devices for successful and maximal achievement of the objectives of the 18 teacher. These devices are termed learning resources and they have been found to facilitate the quality of instructive when used by teachers. Osiyale (1998) described learning resources as those things which encompasses all persons and things capable of convening information, values, processing, experiences and techniques that could be used to actively engage the student in the learning process. Donfoster and Lock (1987) defined learning resources as anything which serve as an object of study which may facilitate learning process. They added that learning resources therefore, include anything that brings about success in the classroom. Learning resources used in the classroom include, among others, books, newspapers, video computer etc. Equally, Ugonabo (1988) defined learning resources as anything which is of help to the teachers and students and which maximizes learning in various areas. Learning resources, he continued, include such things as information, chalkboard, sheets, slides, working models, overhead projectors, electronic teaching devices, magazines etc. Gardner and Thomas (2003) see learning resources as those materials which help to convey the intended message effectively and meaningfully to learners so that learners receive, understand and equally apply the experience paired to reach overall educational goals. In explaining what learning resources is Ebo (1988) revealed that learning resources represent ways of expressing ideas presenting information and making instruction more challenging, efficient and clear. Gerlachi (1989) points out that learning resources includes a wide range of material equipment and techniques such as chalkboard, bulletin boards, film strips, slides, motion pictures, television, programmed instruction models, demonstrations, charts, maps and books. From the various definitions one can say that learning resources are those resources used to make teaching and learning more meaningful, more interesting, more understandable and of course more realistic. Many teaching process have failed to make meaning due to the absence of learning resources. It then means that without learning resources many teaching and learning will fail to achieve their set objectives.

**2.4 TYPES OF LEARNING RESOURCES**

In most teaching and learning institutions, learning resources have been the chief actor in imparting knowledge to learners, particularly at the primary level of education. Learning resources that are used vary, depending on the type of subjects taught in schools. Historically, learning resources have been categorized into human and material resources as the two major components. They have also been classified according to the sense organs which they appeal to. Uchenna (1995) revealed that human resources include all human beings that function to aid teaching and learning in schools. The teacher makes information available to learners. He also suggests alternative sources of information to these learners. Therefore, the teacher is a resource person. Other categories of staff in the school are also human resources. For instance, the chemistry teacher can call on the physics teacher to explain some concepts to his students. The physics teacher in this way acts as a resource person to the chemistry students. The school bursar can equally act as a resource person in accounts or business studies. Members of the community can also act as resource persons. Such people as mechanics, traders, carpenters, medical doctors, farmers etc could be used by the resourceful teacher in one way or the other to facilitate learning. The farmer could assist the agricultural science teacher in his own lesson on the cultivation of cassava. Uchenna (1995) also added that there are a number of learning resources which teachers frequently use and are more familiar with. These could be classified as printed and non-printed, depending on the type and they cover such range of facilities like books, documents, records, magazines, journals, libraries, archives, pictures, drawings, sketches, carvings, slides, films, life specimen, maps, globes, templates, chalkboards, flannel board etc. The methods of using them vary from teachers to teacher and from subject to subject as the case may be. Some others types of resources include fish ponds, streams, rivers, geology historic buildings, museums. Teachers can take their student to these places to see things taught to them in the classroom practically. The first hand information which students get from these places facilitates learning and makes it more retainable. Offorma (1990) postulated that the list of learning resources is inexhaustible and it will be right to say that the teacher’s level of creativity and resourcefulness is the limit. According to Offorma, learning resources include all forms of information carriers that can be used to promote and encourage effective teaching and learning. They could be in form of textbooks, reference books, journals, posters, charts, programmed texts, nonprint materials such as films, tapes, models, pictures, recorders, transparencies, globes, maps etc. Onyejemeze in Offorma (1990) enumerated types of learning resources to include real life situation, real objects, symbolic and pictorial representation. She went further to classify learning resources into tangible and intangible resources. According to her tangible resources could be grouped into visual, aural and audio-visual aids. Whereas the intangible resources consists of methods and techniques of instruction used by teachers. Akanbi in Onwuzu (1998) classified visual aids as the resource materials and devices that appeal to the sense of sight and touch. He grouped learning resources into projected aid and non-projected aid. The projected aids are three dimensional aids such as film strips, slides and projector etc. While the non-projected aids are pictorial aids, charts, pictures mobiles, slides, books, laboratory equipment. Supporting the above view, Ukeje (1986) opined that learning resources fall, into two categories visual aids, audio visual aids respectively. Visual instructional material, these illustrate sight and are available within 26 our environment. These materials include pictures photographs flash cards, charts, maps, diagram, mock-ups, models, filmstrip, slides, exhibits, bulletin board, chalkboards, drawings and cartoons. Audio Visual Aid Materials: Audiovisual materials combine both sight and hearing; include sound film stimuli, television, printed materials with recorded visual aids. They also relate to the feeling and touching which make a lasting impression on the learner. In an attempt to list the types of learning resources. Aliero (2000) began by defining learning resources to be any device, piece of equipment graphic representing sound or illustration that helps the pupils to learn. He further categorized learning resources into four main types viz, visual aids. These include chalkboard, posters, bulletin board displays, models, motion pictures slides, projected opaque materials flip chart and flannel board.

* Auditory aids: These include record players, tape recorders and language laboratories.
* Audio visual aids: These include aids that make use of both sight and hearing such as motion pictures, slides and television.
* Simulation devices: These include devices built to stimulate action or function of the real thing.

Olaitan and Agusiobo in Mama (1999) maintained that learning resources can be schematically categorized into concrete real materials and models or representations. They went further to emphasize that concrete/real 27 materials makes teaching more meaningful and can therefore be said to be the best teaching and learning resources. According to Akubue (1992) audio aids are those that relate more to the senses of hearing. They include the radio, record players, tape recorders, and the human voice. He further observed that audio visual aids make it possible to combine the external senses especially those of seeing and hearing included are television, video equipment and the cinema.

**2.5 MANAGEMENT OF LEARNING RESOURCES IN SECONDARY SCHOOLS**

A school system could be described as an organization where resources are managed and organized in such a way that would enable the student to acquire desirable learning competencies. A resource is anything which could be used in an organization in order to achieve the goals of the organization. The process of managing and organizing resources is called resource utilization. Achimugu (1998) observed that there is wastage of human and material resources for teaching and learning. This he claims has its root in inefficiently, misuse, under-utilization, lack of maintenance and lack of appreciation of these resources. For learning effectiveness, the management of learning resources are of great importance because there has to be proper preservation and secure of the learning resources. Management of resource materials refers to process of securing, supervision judicious use, storage facilities and preserving the available resources. Management of resource materials requires that the teacher himself/herself must be creative and resourceful. For instance, a teacher who cannot easily follow the instructions as specified in manufacturer’s handbooks will be creating more problems to the management of these items/materials. Management in Education is the process of allocating educational inputs (human materials, time and constraints) by planning, organizing, directing and controlling them for the purpose of producing educational outputs (educated school leavers) with the right knowledge, skills and attitudes desired by the society. The school administrator ensures that the educational objectives are accomplished through management of learning resources. It then means that educational policy makers as well as teachers should always ensure maximum benefits and proper management of learning resources in teaching learning process(Salami 1993). Owolabi (1990) suggested constant analysis of the supply and proper management of learning resources. He revealed the existing, inequalities in resource distribution and the extent of the management of available resource. Experiences have shown that learning resources are sometimes being grossly mismanaged by teachers. Thinking along the same line Johnana in Okeke (1989) stated that management is the orchestration of life including planning, organizing procedures and above all resources arranged in the environment to maximize efficiency, monitor pupils/students’ progress and anticipation of potential problems. Emphasizing on the need for good management he said that this would provide efficiency in teaching of subjects, care of the facilities, tools, machines, charts, diagrams, pictures and the evaluation of skills method for maintaining desired standard of performance. Farrant (1992) also noted that gadgets such as slide, projectors must be kept in a safe room; be cleaned and dusted everyday to prevent rusting. The slide and film-strip should be kept in a container and covered while inexpensive material should be kept in a separate room. He went further to stress, that picture and maps should be classified and spaced out for instance, visual aids to be placed in the same catalogue cabinet and stored in the same place. It will help in finding pictures, charts, and maps easier and more quickly. The index numbers should be written for quick references and retrieval as they are arranged in files according to their sizes.

**2.6 CONCEPT OF TEACHING COMPUTER**

The twenty- first century is already turning out to be the century of the computer age. The computer revolution that started after the Second World War is now developing exponentially and computers are beginning to influence and take over nearly every aspect of our lives. In a rapidly changing world, basic education is essential for an individual to be able to access and apply information. The Economic Commission for Africa has indicated that the ability to access and use information is no longer a luxury, but a necessity for development. Unfortunately, many developing countries, especially in Africa, are still low in Information and Communication Technology (ICT) application and use, as cited by. The ability to use computers effectively has become an essential part of everyone‘s education. Skills such as book keeping, clerical and administrative work, stocktaking, and so forth, now constitute a set of computerized practices that form the core IT skills package: spreadsheets word processors, and database as sited by. The demand for computer/ICT literacy is increasing in Nigeria, because employees realize that computers and other ICT facilities can enhance efficiency. On the other hand, employees have also become computer literate. The Federal Government of Nigeria introduced computer education into the nation‘s Secondary School system in 1988 through the policy enactment of the National Computer Policy. The Federal Government of Nigeria introduced computer education into the nation‘s Secondary School system in 1988 through the policy enactment of the National Computer Policy. The general objectives of the policy include:

1. Bring about a computer literate society by the mid – 1990s

2. Enable present school children to appreciate and use the life in future various aspects of life and in future employment. According to the National Computer Policy, the first objective is to ensure that the general populace appreciates the impact of information and computer technology on packages, understand the structure and operation of computers and their history, and to appreciate the economic, social and psychological impact of the computer. The modalities and the strategies for achieving the stated objectives include:

1. Training teachers and associated personnel.

2. Hardware facilities.

3. Curriculum development.

4. Maintenance of hardware and peripherals. Computer education was initially limited to Federal Unity Secondary schools until few years ago when it was introduced to states‘ government secondary school system. Presently Computer Studies is offered as a core subject in Basic School Certificate for those in junior secondary school level in Abia State, Nigeria. The aim of this project work is thus to examine the impact of Computer Studies in secondary schools in Umuahia North local Government Area of Abia State, Nigeria. This is because educational systems around the world are on increasing pressure to use the new information and communication technologies (ICTs). Computer education was initially limited to Federal unity Secondary schools until few years ago when it was introduced to states‘ government secondary school system. Presently Computer Studies is offered as a core subject in Basic School Certificate for those in junior secondary school level in Nigeria. This is because educational systems around the world are on increasing pressure to use the new information and communication technologies (ICTs)

**2.7 ADVANTAGES OF COMPUTERS IN EDUCATION**

According to [6], Computer technology has had a deep impact on the education sector. Thanks to computers, imparting education has become easier and much more interesting than before. Owing to memory capacities of computers, large chunks of data can be stored in them. They enable quick processing of data with very less or no chances of errors in processing. Networked computers aid quick communication and enable web access. Storing documents on computers in the form of soft copies instead of hard ones, helps save paper. The advantages of computers in education primarily include:

**Storage Of Information**

Computers enable storage of data in the electronic format, thereby saving paper. Memory capacities of computer storage devices are in gigabytes. This enables them to store huge chunks of data. Moreover, these devices are compact. They occupy very less space, yet store large amounts of data. Both teachers and students benefit from the use of computer technology. Presentations, notes and test papers can be stored and transferred easily over computer storage devices. Similarly, students can submit homework and assignments as soft copies. The process becomes paperless, thus saving paper. Plus, the electronic format makes data storage more durable. Electronically erasable memory devices can be used repeatedly. They offer robust storage of data and reliable data retrieval.

**Audio-visual aids in teaching**

Computers are a brilliant aid in teaching. Online education has revolutionized the education industry. Computer technology has made the dream of distance learning, a reality. Education is no longer limited to classrooms. It has reached far and wide, thanks to computers. Physically distant locations have come closer due to Internet accessibility. So, even if students and teachers are not in the same premises, they can very well communicate with one another. There are many online educational courses, whereby students are not required to attend classes or be physically present for lectures. They can learn from the comfort of their homes

**Better presentation of information**

Computer software help better presentation of information. Internet can play an important role in education. As it is an enormous information base, it can be harnessed for retrieval of information on a variety of subjects. The Internet can be used to refer to information on different subjects. Both teachers and students benefit from the Internet. Teachers can refer to it for additional information and references on the topics to be taught. Students can refer to web sources for additional information on subjects of their interest. The Internet helps teachers set test papers, frame questions for home assignments and decide project topics. And not just academics, teachers can use web sources for ideas on sports competitions, extracurricular activities, picnics, parties and more.

**Quick communication between students, teachers and parent**

Computer teaching plays a key role in the modern education system. Students find it easier to refer to the Internet than searching for information in fat books. The process of learning has gone beyond learning from prescribed textbooks. Internet is a much larger and easier-to-access storehouse of information. When it comes to storing retrieved information, it is easier done on computers than maintaining hand-written notes.

**Computers facilitate effective presentation of information**

Presentation software like PowerPoint and animation software like Flash among others can be of great help to teachers. Computers facilitate audio-visual representation of information, thus making the process of learning interactive and interesting. Computer-aided teaching adds a fun element to education. The otherwise not-so interesting lessons become interesting due to audiovisual effects. Due to the visual aid, difficult subjects can be explained in better ways.

**EMPIRICAL REVIEW**

Work done in reference, was on the application of ICT in Nigerian Secondary Schools. The authors claimed that the adoption and use of ICTs in schools have a positive impact on teaching, learning, and research. Yet despite the roles ICTs can play in education, secondary schools in Nigeria have yet to extensively adopt them for teaching and learning. Efforts geared towards integration of ICTs into the secondary school system, have not had much impact. Problems such as poor policy and project implementation strategies and limited or poor information infrastructure militate against these efforts. In order to ensure that ICTs are widely adopted and used in Nigeria's secondary school system. In reference, the work was aimed on finding the effects of Computer Assisted Instruction (CAI) on Secondary School Students' Performance in Biology in Oyo state, Nigeria. The result of the authors‘ findings of the study showed that the performance of students exposed to Computer Assisted Instruction (CAI) either individually or cooperatively were better than their counterparts exposed to the conventional classroom instruction. According to the author there was no significant difference in the performance of male and female students exposed to CAI in either individual or cooperative settings. Based on their research findings recommendations were made on the need to develop relevant CAI packages for teaching biology in Nigerian secondary schools. Reference research work focused on the effects of introducing computers into the Jamaican schooling system, both primary and secondary. The results of their findings show that computer-based instruction also had smaller, positive effects on scores on follow-up examinations given to students several months after the completion of instruction. In addition, students who were taught on computers developed positive attitudes toward the computer and toward the courses they were taking and computers reduced substantially the amount of time that students needed for learning. The work done in reference focused on the factors militating against computer education in Kenyan public secondary schools on Emerging Issues in the Implementation of Computer Technology into Kenyan Secondary School Classrooms. The author identified some factors militating factors militating against computer education in public secondary schools which included the lack of adequate training in computer skills, not enough time for teachers and students to use computers effectively; lack of confidence and skills with computers; difficulties of access to the computers and software; lack of enough computers for students to use effectively and the issue of computer support materials, and technical assistance. In a related work, the author gave the following factors as challenges affecting the implementation of computer education in schools in Chegutu district of Mashonaland West, Zimbabwe: There are no budgets for computer education in most schools and were funds exists these are inadequate or computer procurement as all the respondents; the majority of teachers and parents have a negative attitude towards computer education there are no teachers qualified and trained to teach computers in the schools; the few teachers available are not

**2.8** **THEORIES IN EDUCATION MANAGEMENT**

In administration, theories are usually classified according to their historical development. Based on this four main classes of administrative theories are identified these are human relation, the system theory, scientific and classical management. Scientific and Classical Management Theory The scientific and classical management theories were the earliest administrative theories. The theories emphasize productivity of the worker. A worker was seen only as a worker or as a tool for production. The workers interests and aspirations were completely suppressed and left outside organizational programs (Enyi, 2003). According to Nwankwo (1982), the 37 belief was that man can be so managed that he can work as fast and efficient as a machine. Scientific management theory stated that increase in specialization and division of labor will make a process more efficient. The theory also suggests that for effective management in an organization, workers with the right skills and abilities for specific task should be thoroughly trained to follow the lay down procedures. In addition to this, the exponents of this theory believe that there should be written proceedures performed in an organization. These written procedures should be followed in supervision to ensure quality control. Finally, the scientific management theory argues that management and workers are equally responsible for achievement of set goals in an organization, industry or institution of government. Other writers have contributed to the development of scientific management theory like Obayi (1988) described management as the process through which an organization’s strategy is formulated and is then implemented through the organization of work, people, finance and technology. Egbe in Ogbonnaya and Ajagbaonwu (1997) noted that management anywhere in the world involves the marriage of labor, infrastructure and other resources and the effective supervision of that marriage is to produce results. This study uses the scientific management theory to the management of learning resources in primary schools in Nigeria; it is obvious to say that efficiency in management of learning resources is associated with the views of exponents of scientific management theory that “increase specialization and division of labor will make a process more efficient”. In an educational system, there is the need to ensure that teachers or instructors are given the roles that corresponds with their area of specialization in primary schools. For example, an instructor or teacher that specialized in physical and health education should be allowed to manage the learning resources associated with sports and health education. This will enhance efficiency in the management and teaching of health and physical fitness in schools. On the issue of division labor, it is proper to ensure that there is division of labor in any organization for efficiency. Divisions of labor ensure productivity and efficiency in service delivery. Division of labor of management of learning resources in primary schools is not left for one person or group of persons to do. Every teacher or instructor through the process of division of labor has a role to play to ensure effective management. In the management of learning resources like visual aids, auditory aids, audio-visual aid, simulation devices etc, workers with the right skills and abilities for specific task should be thoroughly trained to follow the lay down procedures. This will enhance learning and ensure the preservation of these learning resources. Also written procedure for each task that is performed in primary schools will help in supervision, this will lead to effective quality control.

**2.9 EMPIRICAL REVIEW**

The sub-section looks at research works that have been carried out on topics related to the present topic. Ezejitu (1984) carried out an experimental study on the performance of primary school pupils taught primary science, using learning materials and those taught without these materials in Nsukka urban. The entire population was used; hence there was no sample and sampling techniques. The findings shows that the teaching of primary science with learning materials is more effective than teaching without learning materials. In the sense that the pupils were able to understand, demonstrate and remember the lesson taught. It also showed that teaching of primary science with learning materials made learning more participatory, interesting, and permanent. Similarly, Omeni (1988) conducted a study on the availability and management of learning resources in teaching and learning of geography in secondary schools in Mbano local government area in Imo State, using 686 geography students and 14 geography teachers. They found out that learning resources are not available for the teaching and learning of geography in secondary schools in Mbano local government area of Imo State. Ojiako (1988) investigated the extent of availability and use of materials in the teaching of bible knowledge in secondary schools in IsiUkwuato/Okigwe local government area of Abia State. Two principals were used, twenty four bible knowledge teachers and seven hundred and fifteen bible knowledge students as sample. The major findings of the study were as follows:

* There were both professionally trained and non-professionally trained teachers of bible knowledge in Isi Ukwuato/Okigwe local government area.
* The types of teaching materials available in the schools sampled were uniform. The researcher found that most of the bible knowledge teachers in the local government area studied used teaching materials in their lessons though some of them used some learning resources wrongly.
* Lack of skill.
* Time constraint.
* Lack of electricity. Salami (1993) conducted a research on wastage management of resources in Vocational Technical Education in Oyo and Osun States.

The study was a survey research design and the population comprised 430 technical teachers in the three Colleges of Education and one Polytechnic in Oyo and Osun States. Frequency distribution, percentage, mode, mean and a two-way analysis of variances (ANOVA) were the statistical tools used for data analysis. The hypotheses were tested at 0.05 level of probability. The findings revealed that time, space, material and human resource management were areas of wastage in terms of availability and adequacy of material resources. It was recommended by the research that government and institutions should always emphasize adequate management of resources in order to minimize wastage. Ogbonnaya (1995) undertook a survey study of practical measures for improving the teaching of local crafts in primary schools in Aba Education Zone of Abia State. Two research questions and one hypothesis were formulated to guide the study. The population for the study comprised all the primary schools in the zone. The data gathering instrument for the study was a questionnaire titled ‘Practical Administrative Measures for Improving the Teaching of Local Crafts. Questionnaire means scores and t-test statistics were used in answering the research question and testing the single null hypothesis respectively. It was the opinion of headmasters, inspectors supervisor and teachers that the practical administrative measures for improving the teaching of local crafts in primary schools include strict adherence to the time-table school, financial assistance, effective supervision, routine, inspection, organization of competitions, award of cash prizes and certificates, organization of seminar and refresher courses for teachers and discipline of teachers who abandon their classes during the period for local crafts. Oyelami (1999) investigated teachers’ utilization of introductory technology equipment in JSS in Oyo State. The study was a survey research that covered all the junior secondary schools supplied with introductory technology equipment in Oyo State. The population comprised 565 teachers and the 8,704 students of JSS III who offer introductory technology. The sample consists of 404 teachers and 400 JSS III students introductory technology that were drawn through stratified and systematic sampling procedures respectively. A questionnaire was used for data collection. The mean statistics, t-test analysis of variance (ANOVA) and Scheffe’s test were used for data analyses. The results revealed that students have not been benefiting much from the teachers’ utilization of introductory technology equipment in JSS. Results of the t-test and ANOVA showed that there were no significance differences in the skills acquired by respondents from the urban areas and those from the rural areas. It was recommended that more technology equipment be installed in JSS and that available equipment periodically overhauled. willing to teach the computer as a subject in the schools and computer teachers were inadequate considering the student enrolment; there is a negligible number of in-service computer training programs for teachers in the schools and phobia of computers is another significant factor for resenting the subject.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

* 1. **Research design**

The researcher used descriptive research survey design in building up this project work the choice of this research design was considered appropriate because of its advantages of identifying attributes of a large population from a group of individuals. The design was suitable for the study as the study sought to investigate the problem and possible solution of teaching and learning computer science in junior secondary schools in Enugu state.

* 1. **Sources of data collection**

Data were collected from two main sources namely:

(i)Primary source and

(ii)Secondary source

**Primary source:**

These are materials of statistical investigation which were collected by the research for a particular purpose. They can be obtained through a survey, observation questionnaire or as experiment, the researcher has adopted the questionnaire method for this study

**Secondary source:**

These are data from textbook Journal handset etc. they arise as byproducts of the same other purposes. Example administration, various other unpublished works and write ups were also used.

* 1. **Population of the study**

Population of a study is a group of persons or aggregate items, things the researcher is interested in getting information on the study an investigation into the problem and possible solution of teaching and learning computer science in junior secondary schools. 200 teachers in selected secondary schools in Enugu state was selected randomly by the researcher as the population of the study.

* 1. **Sample and sampling procedure**

Sample is the set people or items which constitute part of a given population sampling. Due to large size of the target population, the researcher used the Taro Yamani formula to arrive at the sample population of the study.

n= N

 1+N(e)2

n= 200

1+200(0.05)2

= 200

1+200(0.0025)

= 200 200

1+0.5 = 1.5 = 133.

**3.5 Instrument for data collection**

The major research instrument used is the questionnaires. This was appropriately moderated. They staff were administered with the questionnaires to complete, with or without disclosing their identities. The questionnaire was designed to obtain sufficient and relevant information from the respondents. The primary data contained information extracted from the questionnaires in which the respondents were required to give specific answer to a question by ticking in front of an appropriate answer and administered the same on staff of the organizations. The questionnaires contained about 16 structured questions which were divided into sections A and B.

* 1. **Validation of the research instrument**

The questionnaire used as the research instrument was subjected to face its validation. This research instrument (questionnaire) adopted was adequately checked and validated by the supervisor his contributions and corrections were included into the final draft of the research instrument used.

* 1. **Method of data analysis**

The data collected was not an end in itself but it served as a means to an end. The end being the use of the required data to understand the various situations it is with a view to making valuable recommendations and contributions. To this end, the data collected has to be analysis for any meaningful interpretation to come out with some results. It is for this reason that the following methods were adopted in the research project for the analysis of the data collected. For a comprehensive analysis of data collected, emphasis were laid on the use of absolute numbers frequencies of responses and percentages. Answers to the research questions were provided through the comparison of the percentage of workers response to each statement in the questionnaire related to any specified question being considered.

Frequency in this study refers to the arrangement of responses in order of magnitude or occurrence while percentage refers to the arrangements of the responses in order of their proportion.

The simple percentage method is believed to be straight forward easy to interpret and understand method.

The researcher therefore choose the simple percentage as the method to use.

The formula for percentage is shown as.

% = f/N x 100/1

where f = frequency of respondents response

N = Total Number of response of the sample

100 = Consistency in the percentage of respondents for each item contained in questions.

**CHAPTER FOUR**

**PRESENTATION ANALYSIS INTERPRETATION OF DATA**

**4.1 Introduction**

Efforts will be made at this stage to present, analyze and interpret the data collected during the field survey. This presentation will be based on the responses from the completed questionnaires. The result of this exercise will be summarized in tabular forms for easy references and analysis. It will also show answers to questions relating to the research questions for this research study. The researcher employed simple percentage in the analysis.

**DATA ANALYSIS**

The data collected from the respondents were analyzed in tabular form with simple percentage for easy understanding.

A total of 133(one hundred and thirty three) questionnaires were distributed and 133 questionnaires were returned.

Question 1

Gender distribution of the respondents.

TABLE I

|  |
| --- |
| **Gender distribution of the respondents** |
| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 77 | 57.9 | 57.9 | 57.9 |
| Female | 56 | 42.1 | 42.1 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |

From the above table it shows that 57.9% of the respondents were male while 42.1% of the respondents were female.

Question 2

The positions held by respondents

TABLE II

|  |
| --- |
| **The positions held by respondents** |
| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
| **Valid** | Head mistress  | 37 | 27.8 | 27.8 | 27.8 |
| Senior teachers  | 50 | 37.6 | 37.6 | 65.4 |
| Junior teachers  | 23 | 17.3 | 17.3 | 82.7 |
| Head masters  | 23 | 17.3 | 17.3 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |

 The above tables shown that 37 respondents which represents 27.8% of the respondents are head mistress, 50 respondents which represents 37.6 % are senior teachers, 23 respondents which represents 17.3% of the respondents are junior teachers, while 23 respondents which represents 17.3% of the respondents are head masters.

**TEST OF HYPOTHESES**

Government does not play any role in aiding effective teaching of computer in secondary schools by teachers

**Table III**

|  |
| --- |
| **government does not play any role in aiding effective teaching of computer in secondary schools by teachers**  |
| Response  | Observed N | Expected N | Residual |
| Agreed | 40 | 33.3 | 6.8 |
| strongly agreed | 50 | 33.3 | 16.8 |
| Disagreed | 26 | 33.3 | -7.3 |
| strongly disagreed | 17 | 33.3 | -16.3 |
| Total | 133 |  |  |

|  |
| --- |
| **Test Statistics** |
|  | government does not play any role in aiding effective teaching of computer in secondary schools by teachers  |
| Chi-Square | 19.331a |
| Df | 3 |
| Asymp. Sig. | .000 |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.3. |

Decision rule:

There researcher therefore reject the null hypothesis that state that government does not play any role in aiding effective teaching of computer in secondary schools by teachers as the calculated value of 19.331 is greater than the critical value of 7.82

Therefore the alternate hypothesis is accepted that state thatgovernment does play a role in aiding effective teaching of computer in secondary schools by teachers.

**TEST OF HYPOTHESIS TWO**

Computer literacy level of the teachers does not affect proper teaching of computer science in secondary schools.

Table V

|  |
| --- |
| **computer literacy level of the teachers does not affect proper teaching of computer science in secondary schools** |
| Response  | Observed N | Expected N | Residual |
| Yes | 73 | 44.3 | 28.7 |
| No | 33 | 44.3 | -11.3 |
| Undecided | 27 | 44.3 | -17.3 |
| Total | 133 |  |  |

|  |
| --- |
| **Test Statistics** |
|  | computer literacy level of the teachers does not affect proper teaching of computer science in secondary schools  |
| Chi-Square | 28.211a |
| Df | 2 |
| Asymp. Sig. | .000 |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 44.3. |

Decision rule:

There researcher therefore reject the null hypothesis that state that computer literacy level of the teachers does not affect proper teaching of computer science in secondary schools as the calculated value of 28.211 is greater than the critical value of 5.99

Therefore the alternate hypothesis is accepted that state that computer literacy level of the teachers does affect proper teaching of computer science in secondary schools

**CHAPTER FIVE**

**SUMMARY CONCLUSION AND RECOMMENDATION**

**5.1 Introduction**

It is important to ascertain that the objective of this study was to investigate the problem facing teachers in teaching computer science in secondary schools today.

In the preceding chapter, the relevant data collected for this study were presented, critically analyzed and appropriate interpretation given. In this chapter, certain recommendations made which in the opinion of the researcher will be of benefits in addressing the challenges facing teachers in teaching computer science secondary schools in Nigeria.

**5.2 Summary**

The findings of this study show that so many things are wrong with the teaching and learning of computer science in secondary schools in Nigeria. The absence of conducive environment has been the cause of poor teaching and learning of computer science in secondary schools. Apart from the science teachers who are not well positioned to teach science effectively, the poor state of infrastructure has also negatively influenced the teaching and learning of basic science in the country. Their deficiencies could be traced from the use of inappropriate teaching methods for teaching science, through lack of commitment and dedication while there has been inaccurate assessment of students learning outcomes in basic science. This was due to poor foundation of both science teachers and students in science subjects. The problems of poor teaching of basic science in primary schools is, therefore, as a result of death of resources for teaching science, very few qualified science teachers and competency problems was as a result of the poor training of science teachers, large class sizes of science pupils, The existence of these problems has negatively influenced effective teaching and learning of computer science in our secondary schools in Nigeria.

**5.3 Conclusion**

This study focused on investigating the problem facing teachers in teaching computer science in secondary schools today in Nigeria. The study covered selected secondary schools in the Local Government Area under consideration. The major areas covered in the study included to determine the computer literacy level of teachers and students, the reasons why the teachers use computers and the positive and negative impacts of computer studies in secondary schools. The results of the research indicate that the inclusion of Computer Studies in secondary schools has positive impact in the teaching and learning process in secondary schools in Nigeria. Despite the roles Computer science can play in education, many secondary schools in Nigeria are yet to include it in their teaching and learning process. Hence Computer Studies should be sustained in secondary schools and basic infrastructure provided to ensure that teachers and students maximize the benefits of the positive impact of Computer Studies.

**5.4 Recommendation**

Haven successfully completed the study, the researcher therefore makes the following recommendations; Teachers with exclusive right to whom the responsibility of using learning resources in secondary school should undergo regular training to be updated with the use of learning resources in the classroom context. Head-teachers should ensure that both new and old teachers are familiar with the strategies for effective use of learning resources in the teaching of computer sciences. Government, parent teachers association and individual secondary school student should provide the secondary school organization with different types of learning resources. Financial allocation should set aside for learning resources in the yearly school financial budget. A special language laboratory and equipped with difference types of learning resources.

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**QUESTIONNAIRE**

**INSTRUCTION**

Please tick or fill in where necessary as the case may be.

Section A

1. Gender of respondent

A male { }

B female { }

1. Age distribution of respondents
2. 15-20 { }
3. 21-30 { }
4. 31-40 { }
5. 41-50 { }
6. 51 and above { }
7. Marital status of respondents?
8. married [ ]
9. single [ ]
10. divorce [ ]
11. Educational qualification off respondents
12. SSCE/OND { }
13. HND/BSC { }
14. PGD/MSC { }
15. PHD { }

Others……………………………….

1. How long have you a teacher?
2. 0-2 years { }
3. 3-5 years { }
4. 6-11 years { }
5. 11 years and above……….
6. Position held by the respondent in the schools
7. Principals { }
8. Senior staff { }
9. Junior staff { }
10. Vice principals { }
11. How long have you been in the management team
12. 0-2 years { }
13. 3-5 years { }
14. 6-11 years { }
15. 11 years and above……….

**SECTION B**

1. Computer literacy level of the teachers does affect proper teaching of computer science in secondary schools?
2. Agrees { }
3. Strongly agreed { }
4. Disagreed { }
5. Strongly disagreed { }
6. Government does not play any role in aiding effective teaching of computer in secondary schools by teachers?

(a) Agrees { }

(b) Strongly agreed { }

(c) Disagreed { }

(d) Strongly disagreed { }

1. Computer literacy level of the teachers does not affect proper teaching of computer science in secondary schools?
2. Agreed { }
3. Strongly agreed { }
4. Disagreed { }
5. Strongly disagreed { }
6. Does computer literacy level have any effect on teaching computer science?
7. Agreed { }
8. Strongly agreed { }
9. Disagreed { }
10. Strongly disagreed { }
11. Does instructional material have any impact in the teaching of computer science?
12. Agreed { }
13. Strongly agreed { }
14. Disagreed { }
15. Strongly disagreed { }
16. Does government play any role in aiding effective teaching of computer science in secondary school?
17. Agreed { }
18. Strongly agreed { }
19. Disagreed { }
20. Strongly disagreed { }
21. Can the challenge of unqualified computer science be tackled?
22. Agreed { }
23. Strongly agreed { }
24. Disagreed { }
25. Strongly disagreed { }
26. Are they major challenges in teaching and learning computer science in Junior Secondary Schools in Enugu education zone?
27. Agreed { }
28. Strongly agreed { }
29. Disagreed { }
30. Strongly disagreed { }