

CHAPTER ONE

INTRODUCTION

Background to the Study

Technology is almost an inevitable term, known in all field of work, sectors, professions and even education in the 21st century. This is because in most nations, technology has replaced traditional means of knowledge sharing. Today, technology integration has fundamentally altered how people think, work, and live. In order to help students prepare for life in a knowledge society, schools and other educational institutions must think seriously about integrating Information and Communication Technology (ICT) into their curriculum. The economy is gradually depending on a high degree of ICT competence from its citizens in order to have access to fundamental services; therefore learners need to have a substantial level of ICT knowledge, skills, and awareness if they are to succeed in the future. ICT use, for instance, can benefit students in rural locations by allowing them to attend classes remotely and inspiring them to learn. In this regard, the potential of e-learning is quite encouraging, yet knowledge transmission is not only challenging but also expensive due to the differences between developed and developing countries. Students who have strong self-efficacy are confident in their ability to comprehend a lesson, to work through academic challenges, and to choose the most challenging courses.

Self-efficacy is the belief that one can function successfully in a particular circumstance. In the senior secondary context, a student's belief that he or she can succeed at particular tasks such as learning the material from academic textbooks in preparation for an examination as cognitive ability test can be viewed as self-efficacy and crafting an essay to respond to any inquiry. The National Policy on Education in 2008 introduced the 9-year basic education curriculum to achieve the goals of the Universal Basic Education (UBE) program. Thus, the Nigerian educational structure became 9-3-4, which means 9 years basic education, 3 years senior secondary school education and 4 years tertiary education. The Senior Secondary

School Examination (SSCE) is taken at the end of the SS 3. The West African Examination Council (WAEC) and National Examination Council (NECO) administer the examinations. Secondary school is a link between the primary and tertiary levels of education which students receive after primary education and before tertiary stage and prepare students for tertiary studies. In this regard, a key objective of pre-university instruction should be to increase students' self-efficacy, or their confidence about succeeding in tertiary institutions, in order to better prepare them for their post-secondary studies. Self-efficacy has been connected to traits that may assist students successfully in dealing with difficulties such as the transition from secondary to university education, in addition to being a predictor of achievement and retention (Els, Ellen & Wim 2017).

Information and communication technology (ICT) has unquestionably had an impact on teaching, learning, and research in the subject of education. ICT have the potential to innovate, accelerate, enrich, and deepen skills, to engage and encourage students, to connect classroom learning to the real world (world of works), to build the economic viability of tomorrow's workforce, to improve teaching, and to support school reform. Therefore, there is need to reposition education for a competitive new world culture in order for learners to fit into the world which is embedded in innovation technology, techniques of production and consumption patterns which are now basically ICT centered.

Computers and applications of technology became more pervasive in society which led to a concern about the need for computing skills in everyday life. Hepp, Hinostroza, Laval and Rehbein (2014) argued that ICTs have been utilized in education ever since their inception, but they have not always been massively present. Although, at that time, computers had not been fully integrated in the learning of traditional subject matter, the commonly accepted rhetoric that education systems would need to prepare citizens for lifelong learning in an information society boosted interest in ICTs.

The process of teaching and learning is changing. The nature of classroom instruction has been altered as a result of virtual learning and e-learning platforms and examinations are a crucial component of the educational process that must be computerized. When taking a traditional or manual examination, students must submit their written responses in an answer booklet and evaluator receives these response booklets to grade. Grading takes time and it is dependent on the evaluator's availability and speed of grading for outcomes to be compiled. The limits of manual processes are lessened by the introduction of electronic instruments (computer), by eliminating the need to physically move answer books, the online examination terminals electronically transport the answers supplied by students to the central database via intelligent software. They work quickly and without adding or omitting anything by accident, because they employ the same inference process to check all the answers, they guarantee consistency in the marking scheme which ensures fast result declaration through automation.

Computers can improve education quality in a number of ways, including boosting learner's motivation and engagement, aiding the acquisition of fundamental skills, and improving teacher preparation. ICTs are transformational resources that, when properly applied, can support the transition to a learner-centered environment. Rather than just allowing teachers and students to do what they have always done, computers and Internet technologies enable new approaches of teaching and learning. The use of computers not only affects what learners should learn, but also significantly influences how they should learn. The curriculum has changed from being "content-centered" to being "competence-based," and the manner in which curriculum are delivered has changed from "teacher-centered" forms to "learner-centered" forms. Computers increase learning motivation (KelemneshSeifu 2020)

In order to deliver challenging and authentic content that will engage the learner in the learning process, computer devices like videos, television, and multimedia computer applications can be used. Similar to other performance techniques, interactive radio uses sound effects, songs, dramatizations, comedic skits, and other performance traditions to encourage

students to listen and engage with the teachings being taught. Compared to the standard forty or forty-five (40-45) minutes teaching in the classroom, these encourage students more. The monologue traditional classroom in which the teacher simply lectures from a raised platform or pulpit and the students simply listen to the teacher as if they were attending a church sermon is gradually becoming less effective with ICT-integrated learning process.

Students are exposed to a completely new learning environment when using a computer, necessitating the development of new skills. Skills in critical thinking, research, and evaluation are becoming more and more crucial as students must navigate through expanding amounts of information from numerous sources. The potential applications of the knowledge that students are expected to master must be reflected in the learning environment for the knowledge not to become inert. This necessitates the use of open-ended learning settings as opposed to those that just focus on the transfer of information. ICT can help create effective learning environments in a variety of ways. The researcher may proxy “computer studies” with “computer science” or uses both interchangeably in this work.

Teaching method in secondary schools is very crucial in the successful integration of ICT facilities (Computer) into the school. Teachers are to be aware of the relevance of ICT as a means of providing access to a richer range of resources for themselves and the students. Additionally, they must be persuaded of the superiority of ICT classroom resources over conventional teaching techniques. To guarantee that ICT is not used in the classroom as a substitute teacher but rather as a way to foster innovation, creativity, effectiveness, confidence, and a sense of self-reliance in the teacher and their students, teachers must receive the right training. Teaching methods, materials and equipment involved are presently not familiar to a great number of teachers who were not exposed to ICT facilities (computers) during their years of training. As a result, teachers must be ready to undergo computer literacy training. This computer expertise will help them to successfully train students for today's information-rich and technologically advanced world.

The primary purpose of teaching at any level of education is to bring a fundamental change in the learner (Tebabal&Kahssay, 2011). To facilitate the process of knowledge transmission, teachers should apply appropriate teaching methods that best suit specific objectives and level exit outcomes (summative statements explicitly describing the totality of all the modules within a programme to be achieved). In the traditional epoch, many teaching practitioners widely applied teacher-centered methods to impart knowledge to learners compared to student-centered methods.

Application of instructional materials would only make teaching in secondary schools especially, computer studies to be effective through the use of some instructional materials that guide the teacher in explaining topics to students effectively and efficiently. However, instructional aids are not ends in themselves but they are means intended to serve a specific instructional purpose or function. Teachers at various Ages, right from the Stone Age and Dark Ages down to the Knowledge Age or Information Age had felt the need to make use of instructional materials/aids to produce better results in the teaching-learning process (Olumorin, 2001). However, many of these instructional materials and equipments are still foreign and rarely used in our school system today.

Teaching aids both in print and those of audio and visual types are of fundamental importance to the success of teacher education programmes. Modern teaching-learning demand that the necessary facilities, well qualified teachers, suitable texts and instructional materials are needed to achieve the aims and objectives of teaching at all levels. Provision or presence of these facilities and materials is of great importance to enhance better and effective learning in schools.

Instructional materials of the present secondary schools level include demonstration charts that contain tables, schedules, and curves. They are being used as instructional aids in our secondary school now. The government and private institutions in Nigeria are not left out in the decision of building solid education system. The need for instructional aids at secondary

school level is supported by “Sections 4-23 of the Nigerian National Policy on Education (NPE), (FRN, 2004)”. The NPE recommended that each state and local government authority should establish Teachers’ Resources Centre, where teachers will meet for discussion, investigation, study workshops and conferences. These centers shall also be used for the development and testing of teaching materials.

Despite this, it is interesting to note that teachers are almost ignorant of the availability and the relevance of instructional materials in the schools. Teachers find it difficult to use the instructional aids effectively in imparting knowledge to the students. The immediate effect of this is that it leads to poor performance of students in both internal and external examinations (Ololube, 2006, 2008).

Physical facilities refers to the school plant, that is, the school buildings, classrooms and sizes, library, laboratories, toilet facilities, offices and other materials and infrastructures that would likely motivate students towards learning. Physical facilities are germane to effective learning and academic performance of students. They include the school buildings, classroom and size, libraries, laboratories and recreational equipment among others.

The status of physical facilities especially in our public secondary schools today appears to be of great concern to educators. It seems that the provision of these school facilities has dwindled over the years, perhaps due to increase in school enrolment rate which had led to population explosion in public schools. It has been observed that school physical facilities are essential tools to facilitate and stimulate learning programmes. Teachers need them in an ideal working environment. Experience shows that if physical facilities are available, students tend to have interest in learning; this will invariably lead to high performance. A close observation of the performance of secondary school students perhaps could be traced to lack of physical facilities and a motivating learning environment. Most schools seems to lack the necessary facilities that could enhance effective teaching and learning as a result little is expected from students in terms of academic performance. Experience shows that inadequate physical facilities have

some adverse effect on students' interest to learn. Hence, this may invariably affect their academic performance. In a situation where students are not having access to normal facilities like library equipment and inadequate seats in the classroom it is observed that these could contribute to low performance of students. Apart from protecting student from sun, rain, heat and cold, there should be enough space, seats, laboratory and internet facilities and a host of other physical facilities that could enhance the level of motivation and academic performance of students. In "The Nation" Nigeria daily newspaper of October, 2009, students were reported to have demonstrated over the condition of infrastructures in public schools in Nigeria. It was therefore, believed that where facilities are adequately provided, there seems to be an increase in students performance.

Classroom size which refers to the total number of students in each classroom is an important element of physical facility in student self-efficacy in learning computer studies. Depending upon class size, the teachers may divide the students by making an active learning classroom, where they engage the students in deep learning activities rather than surface learning. Active learning strategies promote a more distinguished order of thinking skills and actively engage in the subject matter which encourages students to participate in learning.

The increase in population in a school affects the class sizes, the performances of students become an issue. Class size refers to the number of students in a given course or classroom, specifically either the number of students being taught by individual teachers in a course or classroom or the average number of students being taught by teachers in a school or educational system. The term may also be the number of students participating in learning experience. Class size is almost an administrative decision over which teachers have little or no control. Class size refers to an educational tool that can be used to describe the average number of students per class in a school. There are large and small sizes in school. The smaller the class, the greater the likelihood is that a teacher will spend more time with individual pupils.

Large classes present more challenges for classroom management, pupil control, and marking, planning, and assessment. Teachers are put under more strain when faced with large classes. In smaller classes, it can be easier for teachers to spot problems and give feedback, identify specific needs and gear teaching to meet them, and set individual targets for pupils. Teachers also experience better relationships with, and have more knowledge of individual learners. The increase in enrollment in many institutions which has become major concerns of students could definitely lead to an increase in class size. Ayeni, O. G. and Oluwatyin, O. P. (2016) however, disagreed with these arguments and reported that effective teaching seems impracticable for teacher educators having large class sizes of 50, 75, 100 or more.

In contrast to quantitative evaluations, some researchers have highlighted the importance of collecting qualitative data concerning the learning process and student experiences when technology is used to teach statistics. Researchers from different fields share this viewpoint. Student experiences shape learning, not what the technology accomplishes. The effectiveness of the learning strategy can be evaluated using qualitative methodologies, which can also shed light on the learning and knowledge-building process from the perspective of the learner. Qualitative methods can shed light on how blended learning technology supports a student-centered teaching style.

Statement of the Problem

The pressure to catch up with the developed world in areas like global competitiveness is pushing education's importance up. Many people who want a college education had to fight for the few openings granted by public colleges prior to the development of e-learning. Those that received positions had to go via the conventional educational system, thus they had to apply for study leave. The traditional mode of instruction has been used to teach computer science in secondary schools in Nigeria. However, students' performance, particularly at the SSCE level, has continuously lagged behind. This can suggest that using a new teaching approach is not helping students learn. One issue that some senior high school computer

science students have is poor performance. Another issue that secondary school students in computer studies are faced with is the laboratory. In the majority of secondary schools, there are not enough laboratories to serve the student population because management didn't have the funds to construct large computer laboratories. The evaluation of computer science packages, teaching methods, physical facilities which includes the classroom and aize, application of instructional materials and accessibility of education, teaching and learning processes of students' performance in computer studies, students' self-efficacy are some of the major problems of computer packages for assessing students' learning. This has raised a lot of concerns and the need for the researcher to investigate school related factors and students' self-efficacy in learning computer science in senior secondary schools in Oredo Local Government Area of Edo State.

Purpose of the Study

The purpose of this study is to Investigate school-related variables and students' self-efficacy in learning computer science in senior secondary schools in Edo State is the goal of this study. The study specifically will:

1. examine the level of students self-efficacy among secondary school students Oredo local government area
2. investigate the relationship between teaching methods and the students ' self-efficacy in computer studies
3. examine the relationship between instructional materials and the students' self-efficacy in computer studies in Oredo government area
4. examine the relationship between school facilities and students' self-efficacy in computer studies:

Research Questions

The following research questions were raised

1. What is the level of students' self-efficacy among secondary school students in Oredo local government area?
2. What is the level of relationship between teaching methods and the students' self efficacy in computer studies?
3. What is the level of relationship between instructional materials and the students' self-efficacy in computer studies in Oredo local government area?
4. What is the level of relationship between school facilities and students' self efficacy in computer studies?

Hypotheses

In the course of this study, the following null hypotheses were formulated and will be tested at 0.05 level of significance

1. The level of students self efficacy in computer studies among secondary school students in Oredo local government area is not significant.
2. Teaching methods are not significant predictors of students' self efficacy in computer studies
3. Instructional resources are not significant predictors of students' self efficacy
4. School facilities are not significant predictors of students' self efficacy in computer studies

Significance of the Study

The researcher anticipates that the findings from this study will be useful for future researchers as well as students, teachers, and educational administrators. Students will find it useful to understand the variables of computer science education and learning. It will aid in the

production of competent computer students who will contribute positively to society. Students and instructors that come across this work will find it to be a source of inspiration. The results of this study are hoped to serve as a springboard for additional investigation into this topic by researchers in the future.

This study will immediately benefit teachers by highlighting the need for them to adopt more effective teaching strategies in order to give their students the experiences they need. The study findings would encourage students who are taught with computer evaluation packages to use and strengthen their computer operations skills.

The study's conclusions will aid in persuading educational administrators of the importance of hiring experienced computer science instructors to teach the subject in a way that is beneficial to both students and society at large. If the necessary materials are not already available, it will also aid in sensitizing educational administrators to the need to make them available. Examples of such materials are chalkboards, graphs, audio-visual materials, etc. that will facilitate effective computer studies learning. Future academics will benefit from this work's substantial knowledge addition to the literature on computer education and education in general. The researcher intends to publish this work for easy accessibility to educational administrators, future academics and to whom it may concern.

Scope of the Study

Public Senior secondary schools in the Oredo Local Government Area was used for this investigation. The study focused on students' self-efficacy in computer studies. The school related factors that were examined were: teaching methods, application of instructional material and physical facilities which has the elements of: classroom size, library, laboratory staff room and sport complex.

Definition of Terms

The study provided operational definitions for the concepts below.

Competency-based education (CBE) approach allows students to advance based on their ability to master a skill or competency at their own pace regardless of environment. This method is tailored to meet different learning abilities and can lead to more efficient student outcomes.

Content-centered focuses only on the content, helping learners to build on the knowledge gained.

Instructional material: Instructional materials are the content or information conveyed within a course. These include the lectures, readings, textbooks, multimedia components, and other resources in a course

Learner-centered approach views learners as active agents. They bring their own knowledge, past experiences, education, and ideas – and this impacts how they take on board new information and learn. It also focuses on the needs of each student, who she/he is, what she/he can do and what she/he wants to become

Open-ended learning: Learning that has no limitations or restrictions. That is learning that has no parameters in time. So, students follow their imagination in creativity, critical thinking, communication and connectivity.

Physical facilities: Physical facilities are items that enable a skillful teacher to achieve a level of instructional effectiveness. Physical facilities enhance effective teaching and learning through the interaction of the learner within the teaching environment which entails: classroom size, library, laboratory, sport complex staff room amongst others.

Self-Efficacy: An individual's self-efficacy refers to their confidence in their ability to carry out the behaviours required to obtain particular performance outcomes. Self-efficacy is the belief that one can exert control over one's own motivation, conduct, and environment in a social setting.

Teacher-centered typically refers to learning situations in which the teacher asserts control over the material that students study and the ways in which they study it—i.e., when, where, how, and at what pace they learn it. Students also put all of their focus on the teacher. They listen exclusively as the teacher talks. During activities, students work alone, and collaboration is discouraged.

Teaching method: Teaching methods are the broader techniques used to help students achieve learning outcomes, while activities are the different ways of implementing these methods. Teaching methods help students: master the content of the course. Learn how to apply the content in particular contexts.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews relevant literature to the study and will be discussed under the following subheadings: conceptual framework, theoretical framework, empirical review and summary of literature review.

Conceptual Framework

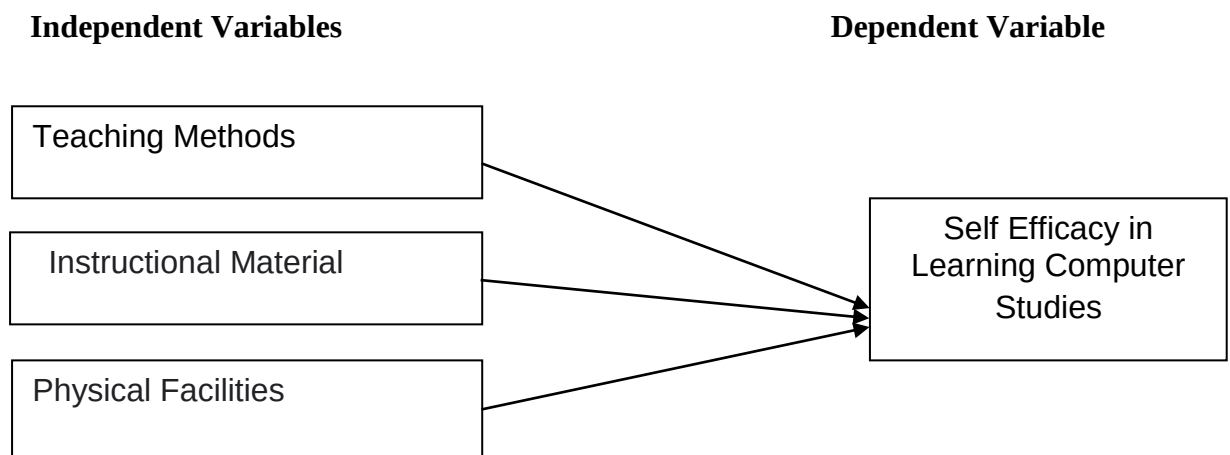


Figure 1: Conceptual Framework

Source: Created by the Researcher

The figure explains the variables of the study which are segmented into independent variables otherwise known as the predictive variables which include: teaching methods, instructional materials and physical facilities while the dependent variable otherwise known as the outcome variable which is self efficacy in learning computer studies. In a nut shell, the independent variables influence and determine the outcome of the dependent variable.

Concept of Computer

Computer, according to the International Records Management Trust (IRMT) (2009), is a programmable machine. It allows the user to store all sorts of information and then process that information, or data, or carry out actions with the information such as; calculating numbers or organizing words. For the purpose of this research, the term computer studies refers to the study of computer, meaning computer and algorithmic processes, including their principles,

hardware and software designs, applications, and impact on society. The major focus of these courses is the development of programming skills, which are important for success in future post secondary studies (URT, 2007).

Computer literacy refers to the ability to use computers at an adequate level for creation, communication and collaboration in a literate society (Guile, 2008). Information Communication Technology has several definitions, depending on the nature of its use, but for this study ICT is used as an umbrella term that includes any communication device or application, encompassing radio, television, cellular phones, computer and network hardware and software, satellite systems as well as the various services and applications associated with them, such as videoconferencing and distance learning. It is from this explanation that the Ministry of education and Vocational Training acted upon integrating ICT into school and calls it computer studies. Every human being has a right and an equal opportunity to quality education and that is why the policy on ICT for Basic Education is directed at the achievement of the objectives of Nigeria's education

Policies and education development programs (URT, 2007).

Education policy of 2014 stated that the overall aims of education in Nigeria are among other things: "To promote the acquisition and appropriate use of literary, social scientific, vocation technological, professional and other forms of knowledge, skills and understanding for the development and improvement of man and society" (FRN, 2014:). In 2001, the Education Sector Development Programme (ESDP) was launched to realize the objectives of education policies by addressing critical issues including ICT, improving equality the quality of education, both formal and non-formal; to promote access and equity to basic education to promote science and technology. Furthermore, Universal Declaration of Human Rights Article states:

The concept underpinning human rights education is that education should not only aim at forming trained, professional workers, but also at contributing to the development of individuals who possess the skills to interact and act in a just society. Human rights education or human rights in education, aim at providing pupils and students with the abilities to accompany and produce societal changes. Education is seen as a way to empower people, improve their quality of life and increase their capacity to participate in the decision-making processes leading to improved social, cultural and economic policies.(Art. 26.2)

Source: UNESCO and human rights education 2003

According to Fiske (2009), if we are talking about empowering an entire community - parents, teachers, administrators, even students then they all need access to newest technology; otherwise we are trying to prepare students for the twenty first Century world using Stone Age tools. Noll (2010), support that Advocates of Information Age education will again point to the precedent of the printing press and the great democratization of education that followed. Just as the printing press brought high quality and affordable education to the masses, new educational technologies should do the same. By reducing the cost of access to the best instruction in the world, these new technologies, if properly implemented, should decrease the discrepancy between the information haves and have not.

According to Riordan (2004), in democratic societies citizens demand both greater equality and greater quality from schools. They desire both the simple transmission of basic knowledge and skills and selection of certain students to pursue specialized and functional roles in society. UNESCO's World Conference on Education for all held in Jontiem in 1990 and from the Global Forum on Education, held in Dakar in 2000. According to these recommendations, it is not the enrollment of a certain part of the population, in other words access, that fulfils the right that all have to education. Education for All refers to an education capable of serving all children, youths and adults with the required quality and equity. Improving the quality of education, keeping students in school and expanding access to

education are among the major challenges currently faced by countries. Such challenges are associated with the increasingly important role played by education at a global level, because of its relevance to the pursuit of sustainable development in society, citizenship awareness building and the fight against social exclusion. The development of public policies based on those perspectives is a core strategy to ensure the universalized access, attendance and learning at all stages of basic education.

Computer Studies in Senior Secondary School

The need for computer studies in senior secondary schools is enormous. The world is a global village, information dissemination is done in seconds, and offices are becoming paperless (Edhuze, 2003). All these could be attributed to digitalization, which is facilitated by information and communication technology devices such as computer, internet, fax, Global System of Communication (GSM) or mobile phone and satellites (Usoroh, 2008). This digitalization can only be made useful when a society is computer literate and the changes of becoming a computer literate society is through Computer studies taught mainly in secondary schools. This is a major challenge to schools, because it is their responsibility to graduate students who can fit into the information age. It can, therefore, be said that computer literacy is needed in a society like ours if we want to be part of this global consumer of ICT.

In a move to help Nigerians overcome backwardness in computer and digital know-how, many spirited Nigerians have mapped out strategies for helping the citizens become computer literate. Such bold steps will help close the narrow gap between Nigeria and developed countries. In line with this, he further noted that, computer literacy and IT knowledge offers room for self-employment since a trained computer literate person could end up operating a business centre become a programmer or even a telex-engineer. For those that are going into business, it can also aid them in the area of speed, data keeping, accuracy and information processing. Today, one of the fundamental demands in many established interviews for job seeker is computer literacy skill. Many people have failed to secure jobs

which they are qualified for only for lack of knowledge and skills in computer operations (Ayogu, 2008).

The use of computer as a facility is possible and necessary in the school system. Its use can aid communication among students. Computer communication has played and is still playing an important role, not only in schools, but also in offices, hospitals, libraries and in homes. At the secondary school level, computers enable the students communicate at fast, accurate and convenient pace to other people through e-mail (Okonkwo, 2006). Sending and receiving data electronically will take only a few seconds. In information processing, computer can sort or search through huge amount of information in a flash. Computer communication makes any information needed easily and widely available irrespective of distance between the two destinations (Okonkwo, 2006).

Computer studies also presents challenges to senior secondary school teachers. Such challenges have prompted teachers to go for training in order to build confidence in the handling of computer related courses. Such training also helps them develop a sense of rapport with students and equally makes them appreciate its potential for problem solving (Okonkwo, 2006). He went further to say that their knowledge of Computer studies also helps them to schedule classes, print report cards, and store and upgrade students' records. Most often, these records are used by the guidance counselor for student career choice he concluded. Okebukola (2017) also asserted that computer is not part of classroom technology in public schools in Nigeria. Thus, the chalkboard and textbooks continue to dominate classroom activities in most secondary schools in Nigeria. If a country such as Uganda which has less than a fifth of Nigeria's resources, now use ICT facilities to help secondary schools students to become better information users, why is Nigeria lagging behind (Aduwa &Iyamu, 2005). The answer is simply mismanagement of the huge resources of the country and inability of political leaders to prioritize Nigeria's developmental needs (Okebukola, 2017). There is no doubt that in the current harsh economic competition, the private sector in Nigeria has embraced ICT to stay

afloat. The banking sector, insurance, manufacturing industries and multinational companies in the oil sector have embraced multimedia technology to bring innovative solutions to their current challenges. If Nigeria wants to be a major player in the global market of ideas and prepares her citizens for the new environment of today and the future, the country should embrace functional Computer studies (ICT) in secondary school for ICT to serve as aids to teaching and learning; tool for management; instrument for economic development; instrument of high technological development (Aduwu&Iyamu, 2005).

Factors Influencing the Learning of Computer Science among Senior Secondary School Students

There are several variables that influence the learning of Computer science among senior secondary schools in Nigeria. But few will be discussed in this study as shown below.

Teaching Method

Substantial research on the effectiveness of teaching methods indicates that the quality of teaching is often reflected by the achievements of learners. According to Ayeni (2011), teaching is a process that involves bringing about desirable changes in learners so as to achieve specific outcomes. In order for the method used for teaching to be effective, Adunola (2011) maintains that teachers need to be conversant with numerous teaching strategies that take recognition of the magnitude of complexity of the concepts to be covered. It cannot be overemphasized that the successful integration of ICT facilities (Computer) into the school depends on teacher being aware of the relevance of ICT as a means of providing access to a richer range of resources for themselves and the students (Etuk, 2007). They must also be convinced of the comparative effectiveness of ICT facilities in the classroom over the traditional method of teaching. According to Etuk (2007), teachers need to be properly educated to be morally responsible enough to know and ensure that ICT is not adopted in the classroom as a surrogate teacher but as a means to enhancing innovation, creativity, effectiveness, confidence and a sense of self-reliance in both the teacher and the pupils.

Teaching methods, materials and equipment involved are presently not familiar to a great number of teachers who were not exposed to these during their years of training (Etuk, 2007). Therefore, teachers need to be prepared to be retrained in order to be computer literate. This knowledge of computer will enable them prepare students successfully for today information rich and technology driven world. Such strategy for improving teaching methodology includes employment of qualified teachers, use of different teaching methods, and provision of adequate facilities, giving of assignment after practical class use of continuous assessment as a means of evaluating students, provision of proved programs (software) and their corresponding tutorials for easy understanding. Other strategies may include use of individual and group projects in teaching Computer studies, professional development of the teachers, use of improvisation (drawing of computer and its various parts on a card-board) and the use of instructional facilities for teaching Computer studies. A robust technical infrastructure and technical support, for example, internet connectivity, computers and computer instructors/teachers can also be useful.

Finally, adopting student-centered learning strategies such as concept mapping, peer tutoring, peer learning methods, group work, e-learning and peer tutoring, should be encouraged. In the student-centered approach, it is believed that knowledge is constructed by students and the lecturer is only a facilitator of learning rather than a presenter of information. In this way, students become more active participants in the learning process wherever possible and take greater responsibility for their own learning. These strategies can encourage deep level processing of information, make the students efficient, problem solvers and increase ability to develop lifelong learning skills.

Instructional Materials

Teaching materials are the genuine items that are utilized to improve learning. Materials, equipment, or strategies that assist the instructor in taking a realistic approach to his or her job are referred to as teaching materials. Whether actual or made-up, these representations all have

the same goal: to assist the instructor in successfully and meaningfully transmitting the intended information to the students so that they absorb, comprehend, retain, and apply the knowledge obtained to achieve overall educational goals. Instructional materials are those that assist pupils to form a mental image of what has been taught and to remember the lesson for a long time. Radio, television, chalkboards, charts, micro-projectors, still pictures, specimens, and other instructional resources are all available (Ogoma, 2011). It may be defined as the tools that the classroom instructor uses to impart information in students in order to meet his objectives. Instructional materials are those that are used to make teaching and learning easier. It allows the instructor to easily explain ideas or concepts by appealing to several senses at the same time (Mundi, 2008).

Computer studies are more of a practical learning experience than a theoretical one. As a result, teachers should create settings that allow children to learn more quickly and efficiently (Eya, 2013). To make teaching and learning easier, the instructor should use appropriate teaching materials. Computers, which include the keyboard, mouse, monitor, processor, interface, printers, and disk drives as well as laboratories, projected pictures, textbooks, and chalk boards, are examples of teaching materials. Without the availability of these instructional materials in schools, the use of the aforementioned instructional materials in teaching and learning computer science in secondary schools may not be able to achieve its goals. There is also an increased demand on the time and expertise of instructors (Eze, 2011).

Previous research has criticized the lack of availability and/or use of instructional resources for studying computer science and other topics in Nigeria. Adedijio (2010) found that the availability of instructional resources for teaching and learning is quite poor. According to Neboh (2011), public schools require four different types of teaching resources: two-dimensional materials, three-dimensional materials, audio materials, and audio-visual materials. According to studies, most audio and audio-visual materials such as cassette recorders, tape-recorded materials, radio, projectors, film strips, slides, transparencies, television, and video

recorders are not available in most Nigerian schools, and when they are, they are insufficient (Eya, 2013). While textbooks and two-dimensional resources for computer studies are commonly available in schools, three-dimensional materials, audio materials, audio visual, computers, and computer laboratories are not available in most Nigerian secondary schools (Adedijio, 2010). This is a circumstance that severely impedes efficient computer science teaching and learning as well as the development of Information and Communications Technology (ICT) skills among Nigerian secondary school pupils (Akanbi, 2008). According to Mkpa (2007) many instructors are hesitant to employ instructional materials in the classroom due to their perceived value. Many teachers, he claims, used teaching materials last when they were being evaluated or observed for certification. They no longer bother to use the resources because such supervision is now rare. According to Enem (2012), some instructors find it difficult to employ instructional resources in their courses, owing to a lack of enthusiasm, resourcefulness, or poor training on the need for and how to use instructional materials. This goes a long way toward demonstrating that the problem with the utilization of teaching materials in the classroom is intertwined (Akanbi, 2008). The materials needed for computer science education may not be available, and even if they are, instructors may choose not to utilize them owing to a lack of knowledge or a refusal to put in extra effort to improve their professional competence.

Physical Facilities

Schools exist for the purpose of teaching and learning. Physical and material resources are deployed for this purpose. Physical facilities are resources provided for staff and students to optimize their productivity in the teaching and learning process. The realization that the transfer of knowledge does not only take place in the four walls of the classroom from the teacher to the students but rather that learning takes place through discovery, exploration, interaction with the internal and external environment has necessitated the creative and innovative development of

teaching and learning facilities that reflect these changes. Schools exist to serve socio-economic and political needs of the ever-changing society; consequently, they are in constant interaction with their external environment. They receive inputs from the external environment in the form of human and material resources, process them and empty same into the society as finished products and services. The quality of the products bears a direct relationship with the quality of the facilities deployed in the process of the production. This demands that state of the art facilities are provided in schools to prepare school leavers for life in the global village (Farombi, 1998) in Irungu (2017).

According to Akande (1985) in Irungu (2017), learning can occur through one's interaction with one's environment. Environment here refers to facilities that are available to facilitate students learning outcome. Teachers need office space, conference rooms for team planning, facilities for diagnosis of pupil's needs, and facilities for preparing instructional presentation. New views of the teaching-learning process that move beyond memorizing of knowledge toward involvement of students in applying, analyzing, synthesizing, and evaluating knowledge stress the need for flexibility of space in the schools. Equipment and supplies are essential for the attainment of educational goals and objectives. Some equipment performs specific functions while others such as computers perform multiplicity of functions. School equipments are available in various forms. The equipment may be fixed or movable and they serve various purposes in the educational system. They are used in the classrooms, laboratories, offices, workshops, cafeteria, toilets, laundry, and library and for sports etc. The supplies are the accessories for operation of various equipments. Furniture are also available in the classrooms, offices, cafeteria, laboratories and workshops, outdoor, residential halls,- common rooms, and those designed for the physical facilities challenged. Information and Communication Technology (ICT) facilities also include among others softwares on classroom management, facility management, inventory control, maintenance management, online procurement, food services and general management. The application of the software requires

that the school managers should be exposed to necessary in service training to enable them make maximum use of the softwares. The school plant is a major component of the school facility. Knezevich (1975) in Irungu (2017) described it as “the space interpretation of the school curriculum”. He emphasized that the curriculum finds its physical facilities expression in construction and arrangement of the school plant, which is a controlled environment that facilitates the teaching and learning process and also protects the physical facilities well being of the occupants. He further stated that since teaching and learning does not take place in a vacuum, school facilities give meaning to the planned curricula and extra-curricular activities. A discussion of the school plant starts with the conceptualization of the educational programmes to be offered in the school.

Physical facilities have been observed as a potent factor to quantitative education in total. The importance to teaching and learning of the provision of adequate physical facilities for education cannot be over-emphasized. According to Oni (1992) in Irungu (2017) facilities constitute a strategic factor in organizational functioning. This is so because they determine to a very large extent the smooth functioning of any social organization or system including education. He further stated that their availability, adequacy and relevance influence efficiency and high productivity. In his words, Farombi (1998) in Irungu (2017) opined that the wealth of a nation or society could determine the quality of education in that land; emphasizing that a society that is wealthy will establish good schools with quality teachers, learning infrastructures that with such, students may learn with ease thus bringing about good academic achievement especially in computer studies considering the age of ICT that we are in. Writing on the role of facilities in teaching.

Balogun (1982) in Irungu (2017) submitted that no effective science education programme like computer science can exist without equipment for teaching. This is because facilities enable the learner to develop problem-solving skills and scientific attitudes and helps individual students to learn at their own paces. The net effect of this is increased overall

academic performance of the entire students. The development and maintenance of physical facilities in educational institutions by communities, parents, and sponsors should continue to be encouraged.

Numerous studies have examined the effects of small class on students' achievement. However, the findings "on the educational effects of class size differences [have] not been clear". The effect between class size on academic performance has been a perplexing one for educators. Studies have found that class size affects academic achievement where students who were found in smaller classes performed better than those in large classes (Swift, 2000). Small class size often encourages better interaction between the teacher and students which benefits students in terms of high performance generally (Schneider, 2002). Cotton (2001) in a study observed that specific benefit associated with smaller class sizes are higher students' achievement. Nathan and Febey (2001) identified similar beneficial outcomes. They argued that smaller class sizes, on average, can provide a safer place for students, a more positive and challenging environment, higher achievement, higher graduation rates, fewer discipline problems, and greater satisfaction for families, students and teachers. Fabunmi and Okore (2000) also revealed that class-size is a major factor of performance in Secondary School Certificate Examination (SSCE) where they observed that students in small class sizes recorded better test scores than those in large class sizes. Wang (2000) suggested that teachers of smaller classes confront fewer disciplinary problems, cover subject matter, like computer science in more depth, have more one-on-one contact with students and keep better track of student progress which eventually leads to higher academic performance than their colleagues in large classes. School principals also report that smaller classes have allowed them to establish and maintain better relationship with students, parents and families and resulted in better academic performance (Brophy, 2000). In large classes, Duncanson (2003) noted that the lack of large spaces that students can self-select to work forces the teacher to schedule all events in a one-size-fits all modality, focus on the delivery of general instruction to all students, and deal with

one activity at a time which result in low academic performance. Students have indicated that schools with smaller class sizes perform better academically than schools with larger class sizes.

According to Chingos (2013), "the evidence on the efficacy of class size is clearly mixed, with one high quality study finding quite large effects, another finding no effects, and a handful finding effects in between" (p.430). In their meta-analysis of class size research, Filges, Sonne-Schmidt and Nielson (2018) found that: there is some evidence to suggest that there is an effect of reducing class size on academic achievement, although the effect is very small. There is no significant effect on computer science learning and achievement; though the average is negative, meaning a possible adverse impact on some students cannot be ruled out. Finn, Pannozzo and Achilles (2003) conducted a similar meta- analysis and conclude that the: results favored small classes in at least 38 of the 42 measures employed. While some individual changes were small, no measure in any study was statistically significant in favor of larger classes. In a 2003 paper, Buckingham stresses that; several large scale studies and many smaller ones find a relationship between learning in general and class size. But a closer examination reveals crucial methodological problems and generalizations that make the findings far less than definitive, even meaningless. In contrast, Glass and Smith (1979), in their meta-analysis of research on class size and academic achievement, came to the conclusion that there was a clear and strong relationship between class size and achievement which constitute students' self efficacy. The relationship seems slightly stronger at the secondary schools than the primary schools; but it does not differ appreciably across different school subjects, levels of learner IQ, or several other obvious demographic features of classrooms. In a large scale study of the California Class Size reduction program, Jepsen and Rivkin (2009) found that reduction in class size raised schools' average learning and reading achievement by roughly 0.10 and 0.06 standard deviations, respectively. However, the accompanying rise in the shares of new and not-fully certified teachers offset some of the benefits of class size reductions.

Complicating the class size debate further, Chingos (2012) concludes that mandated class size reductions in the state of Florida had little, if any, effect on student achievement and self efficacy. In their study of class size during elementary school, Nye, Hedges and Konstantopoulos (2002) drew the following conclusions:

- a. Small classes in early grades lead to higher academic achievement.
- b. The advantages of smaller classes are larger for lower achieving students for reading, but larger for higher achieving students in mathematics and some certain subjects including computer science.
- c. While there is strong evidence that small classes can benefit all students, evidence for the differential benefit for lower achieving students is both weak and contradictory.

Baker, Farrie and Sciarra (2016) argue that there is ample research showing that elementary school children in smaller classes achieve better outcomes, both academic and otherwise, and that class size reduction can be an effective strategy for closing racially or socioeconomically based achievement gap. They also emphasize that reductions in class size may positively influence teacher recruitment and retention. Odden (1990) concludes that smaller classes enable opportunities for teachers to engage in research-backed instructional strategies that have been shown to promote higher student performance, like group work and class discussions. Indeed, in an analysis of data from the National Education Longitudinal Study, Akerhielm (1995) finds that for 8th graders (JSS 2), students in smaller classes International Journal on Studies in Education (IJonSE) 69 performed better than students in larger classes. Loveless and Hess (2007) find that smaller class sizes offer teachers more time to address the individual needs of each student, and the smaller settings provide better structure, safety and discipline.. Folemer-Anneverlink, Doolard, Mascareno and Bosker (2010) conclude that more student-teacher interactions occurred in smaller classes than in larger classes. Greater student teacher interactions may facilitate higher quality instructions. Indeed, a 2015 Hanover Research Report notes that several studies found out that; enrollment in smaller classes can lead

to higher standardized test scores, an increased likelihood of taking college entrance exams, increased earnings, and higher college attendance rates, especially among certain subpopulations.

A National Council of Teachers of English Policy Statement (2014) advocates for smaller class size as a means of improving student learning. Nevertheless, they stressed that; for many high school students smaller classes do not make a significant difference in academic achievement. However, for minority and at-risk students as well as those who struggle with certain subjects, smaller classes enhance academic achievement. In the statement, educators are advised to note that benefits from reduced class sizes are not uniform across all grades and populations.

Self Efficacy

Self-Efficacy is interpreted as people's beliefs about their own capabilities to organize and manage some specific tasks, events or actions required to achieve performance designated levels that affect their lives (Bandura, 1994). In short Self-Efficacy is one's beliefs in ones' own ability to accomplish something successfully. People only do and accomplish thing that they believe they can accomplish it and they won't attempt something that they believe they can reach it.

Self-Efficacy impacts an individual's choice of activities, effort, and persistence. human beings who have a low feel of efficacy for conducting a undertaking may also keep away from it, folks who agree with they may be successful should take part with no trouble. Individuals'who have an experience efficacious is hypothesized to paintings tougher and persist longer after they encounter difficulties than people who doubt their skills (Bandura., 1977). The academic self-efficacy refers to the belief of students' ability in finishing the academic task that is given at specific level (Bandura., 1986). The construct of self-efficacy is deferent with the daily term of "confidence".

Confidence is a term that refers to strength of belief but does not necessarily determine what the certainty is about. For example, the statement "I can be so confidence that I will get success in some efforts". But self-efficacy is the person's belief on their capabilities in reaching a focused achievement. The confidence tends to lead to the person's motto and it is to the construct which has been embedded in the theoretical system but self-efficacy leads to the attitude of the subject in reaching a focused achievement (Bandura., 1997).

Students frequently receive precursory facts that they own the capabilities to perform an undertaking (for example., "you could do that"). High quality precursory comments complements self-efficacy, however this growth will be temporary if next efforts flip out poorly. College students additionally derive efficacy data from physiological indexes (heart fee and sweating). Physical signs and symptoms signaling tension is probably interpreted to suggest a lack of talents. Records obtained from these resources do now not routinely have an effect on efficacy; as an alternative, it's far cognitively appraised (Bandura, 1986). Efficacy appraisal is an inferential process in which persons weigh and combine the contributions of such personal and situational factors as their perceived ability, the difficulty of the task, amount of effort expended, amount of external assistance received, number and pattern of successes and failures, their perceived similarity to models, and persuader credibility (Schunk, 1989)

Self-efficacy might operate during academic learning. At the start of an activity, students differ in their beliefs about their capabilities to acquire knowledge, perform skills, master the material, and so forth. Initial self efficacy varies as a function of aptitude (abilities and attitudes) and prior experience. Such personal factors as goal setting and information processing, along with situational factors (rewards and teacher feedback), affect students while they are working. From these factors students derive cues signaling how well they are learning, which they use to assess efficacy for further learning. Motivation is enhanced when students perceive they are making progress in learning. In turn, as students work on tasks and become more skillful, they maintain a sense of self-efficacy for performing well(Schunk, 1989).

Self-Efficacy and Its Dimension

Self-efficacy expectancies vary along three dimensions: magnitude, or level, generality, and strength

a. **Magnitude:** Level of self-efficacy is defined as the number of steps of increasing difficulty that an individual feels he/she is capable of doing task. (Bandura, 1997) explains that the perceived persona efficacy may consist of accomplishing simple tasks, develop to moderately difficult tasks, or include totally hard tasks. The perceived capability for a given person is measured against levels or magnitudes of task demands that represent different degrees of challenge or obstacles to successful performance.

b. **Generality:** Self-efficacy deals with the degree to which success or failure in handling tasks affect self-efficacy hope in like situations or contexts. People have self-efficacy beliefs in different domains, and within the network of efficacy beliefs, some are greater importance than others. The most fundamental self-beliefs are those around which people structure their lives (Bandura, 1997). Again, (Bandura, 2001) defines generality include to the diversity of activities or areas over which people find themselves efficacious: “Generality can vary across types of activities, the modalities in which capabilities are expressed (behavioral, cognitive, and affective), situational variations, and the types of individuals toward whom the behavior is directed”.

c. **Strength:** Self-efficacy refers to the resoluteness of peoples convictions that they can perform the behavior in question (Maddux, 1995). Strength of efficacy beliefs is related to endurance or persistence in the face of hardships, challenges, frustrations, pain, and other barriers to performance. In this case (Bandura, 1997) believed that strength of perceived efficacy is measured by the amount of individuals assuring about doing a given task.

Computer Self-Efficacy

Computer self-efficacy (CSE) is a term that originated from the wide-ranging concept of self-efficacy. Bandura (1982) proposes that perceptions of self-efficacy regarding a task (such as a

computer task) can influence the individual's choice to engage in that task; the effort that will be expended in performing it; and the persistence that will be shown in accomplishing the task. This can be illustrated by students' capability to apply computer technology to specific tasks (for example,. send an electronic file to a friend or prepare an electronic presentation). In other words, CSE is students' individual belief in their ability to use technology in order to solve problems, make decisions and gather and use electronic information (Hagger and Chatzisarantis 2005).

Hauser, Paul and Bradley (2012) maintain that certain antecedents can have an impact on students' levels of self-efficacy, namely: social influences (encouragement, lecturer support); demographic variables (experience, age, gender); and beliefs (they cannot do something). Similarly, Burkhard and Roldan (2009) highlight that previous computer experience has a positive impact on CSE as well as students' intentions towards future use of computers. Similarly, Grant, Malloy and Murphy (2009) maintain that students' opinion of their ability based on past performances or experiences, will determine their future aims/intentions. Likewise, Ristianti and Sukoharsono (2014) explain that students' CSE influences their opinion of ICT, suggesting that students with high CSE tend to use ICT more often and willingly in comparison to students with a low CSE; thus influencing their academic performance. Another point to consider is that students who use the internet more often may not necessarily feel more comfortable using computers. Sam, Othman and Nordin (2005) mention that the type of application used (word processing, spreadsheets, internet); the purpose for using the computer; and individual satisfaction can also influence students' CSE and computer anxiety. In contrast, research has shown that undergraduates who are enrolled for computer related courses/degrees appear to have a higher CSE and a positive attitude towards the internet (Tuncer, 2012). As expected, students' attitudes towards technology can be an indicator of whether they will use technology. Evidence suggests that the absence of a relationship between computer anxiety and computer performance is due to the fact that CSE

controls the relationship (Saadé and Kira 2009). In fact, anxiety predicts self-efficacy, which in return predicts performance (Morony, Kleitman, Lee & Stankov, 2013). More specifically, students with low self-efficacy are more inclined to abandon a task after less effort; while those with high self-efficacy are more inclined to persist until completion (Feltz & Öncü, 2014). Stephens (2006) states that the perception students have of their own capabilities may influence their future learning. If students mistakenly believe that they are proficient in computer skills when this is clearly not the case, this may impact negatively on their CSE and could interfere with their academic progress.

Theoretical Framework

Constructivism Learning Theory

This study is hinged on Jean Piaget (1896 - 1980) Constructivism Learning Theory.

Constructivism is a theory espousing, human's gained knowledge from their experiences, and learns in a manner influenced by these experiences. That individual learns by their own experiences, this experiential level contributes to the subject matter to be learned. Each individual is his/her own teacher and gains more knowledge from his/her own life experiences. This also states that an individual learns from his own set of values and more. Constructivism is not a specific way of learning but an educational theory.

Constructivism approach to learning emphasis authentic, challenging projects that include students, teachers and experts in the learning community (Siemens, 2004). Its goal is to create learning communities that are more closely related to the collaborative practices of the real world, where problems are seen from different perspectives, and are able to negotiate and generate meaning and solution through shared understanding. This theory argues that it is impractical for teachers to make all the current decisions and dump the information to students without involving them in the decision process as well as assessing students' ability to construct knowledge. Hence, students learn through experience. However, Sharon suggests that the role of the teacher in constructivist learning environment is one of facilitator, guide and coach. The

learner assumes responsibility for his/her own learning under the direction of the teacher. Therefore, in a computer-enhanced learning environment, the teacher provides the resources, assignments, and data. He then guides the discussion paths while allowing the learners to branch out into areas that present interest and discovery. Hence the learner is free to choose when to work, get the work done at his/her set time which helps him/her and to manage time properly.

According to Siemens (2004) some basic limitations of this theory is that it does not address learning that occurs outside of the people (that is learning that is stored and manipulated by technology). They failed to describe how learning happens within organizations. It is worth remembering that learning theories are concerned with the actual process of learning, not with the values of what is being learned. In a world of ICT like ours, when knowledge is abundant, the rapid evaluation of knowledge is important. Additional concerns arise from the rapid increase in information (Siemens, 2004).

This theory is relevant to this study in that it could be applied in the classroom for improving the teaching and learning of computer studies, especially when using Computer Assisted Instruction (CAI) as a student learning approach. CAI is designed such that it consists of interactive tools for easy navigation by the user. Hence, instructors can give assignments, class work, and projects to enhance and engage learners. It provides opportunities for student-to-student learning which is also very crucial, along with student-to-teacher and student-to-course platforms. Feedback can be swift and effective.

Finally it creates room for evaluation, bearing the process of learning in mind. The learner is evaluated in a broader method. Paper-and-pencil tests are still appropriate but should not be the only method for evaluation. Student reflection papers, self-reflection journals, and cooperative authentic projects are also included.

Albert Bandura Self-Efficacy: Theory to Educational Practice

People make causal contributions to their own psychosocial functioning through mechanisms of personal agency. Among the mechanisms of agency, none is more central or pervasive than beliefs of personal efficacy. Unless people believe they can produce desired effects by their actions, they have little incentive to act. Efficacy belief, therefore, is a major basis of action. People guide their lives by their beliefs of personal efficacy” (Bandura, 1986,). It is revealed from Banduras’ theory that acquisition of required skills and abilities is not sufficient for a person to perform a task; he must have the belief in his abilities that he can undertake the task under difficult settings. For effective functioning, skills and efficacy belief are required to perform appropriately. These two factors of human functioning influence one another, which is defined as “reciprocal causation”. This implies that functioning of skills depends upon the functioning of efficacy belief and vice-versa. Structural sources of self-efficacy for evaluating efficacy belief, all individual acquires information from four primary sources

i.e. Mastery experience, Vicarious experience, Verbal persuasion and Emotional and psychological states of individuals.

From these sources people judge their strength and capableness.

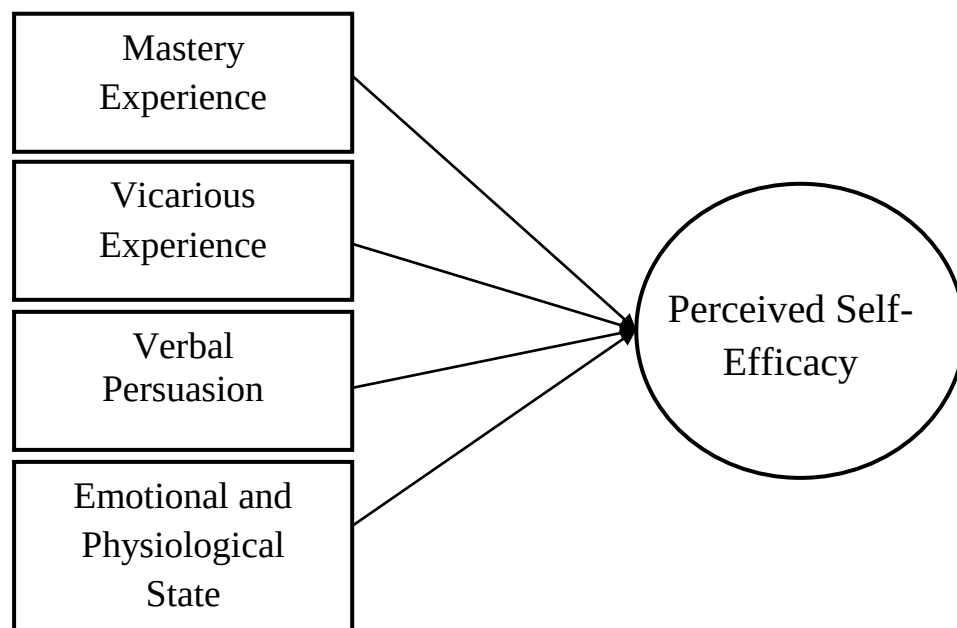


Figure 2: Sources of Self-Efficacy

1. **Mastery Experience:** Mastery experience has a concomitant relation with past success. Repeated past success experience can strengthen efficacy belief. It indicates that successful past experience may help the individual to be successful in similarly associated tasks by controlling the environment. For example, “after strong efficacy expectations are developed through repeated success, the negative impact of occasional failures is likely to be reduced” (Bandura, 1977: 195). In other words, the effect of failure efficacy depends on the strength of existing efficacy of an individual, or later failures may not negatively impact efficacy beliefs with the same extent as the impact of earlier failure. Research works have observed that mastery experience is one of the most influential sources among four primary efficacy information as it handover direct and authentic personal past experience that an individual requires to be successful.
2. **Vicarious Experience:** Observation is considered as the characteristic feature of social learning. In psychology specifically Behaviourisms theory, it is emphasized that learning of an individual can occur throughout the process observation. Self-efficacy theory is based on the principles of Behaviouristic thought. In self-efficacy theory, vicarious experience refers to learning by observing the success and failures of others. In an observer, vicarious experience develops the efficacy belief that they can also achieve success like that of the participant or the person observed. This observational experience generates a sense of social comparison and modelling in observers. Therefore, it is addressed by researchers that vicarious experience as the less dependable source of efficacy belief than the mastery experience.

3. **Verbal Persuasion:** Verbal persuasion is the third source of efficacy belief related to positive and negative appraisal of others. Generally, it is widely used in teaching learning environments to foster student's belief that they are able to face difficult situations. When a teacher provides verbal feedback like "very good", "Excellent", to students' behaviour, it develops positive efficacybeliefs that their academic skills and abilities among students. Hence, students' self-efficacyis influenced by encouragement and discouragement of others. Bandura expressedthat "Verbal persuasion alone may be limited in its power to create end uring increases in perceived efficacy, but it can bolster self-change if the positive appraisal is within realistic bounds"
4. **Emotional & Physiological States:** Emotional and physiological state of an individual is the last and final source of efficacy belief. It refers to emotional and physiological feedback experienced by individuals during performing assigned tasks. According to Bandura, excessive physical and emotional efforts to be successful in task completion might have a negative impact on performance, but individuals who are not overcome by their stress reaction, receive efficacy belief in their ability. This efficacy belief received from physiological and psychological state cognitively evaluated by the individual, based on the level of arousal.

This theory is so important to this work because: Academic self-efficacy is students' perception in their academic skill and abilities for accomplishing assigned tasks or activities. In other words, how students hold belief in their capabilities in relation to academic prospectus. It can be measured by different dimensions of students' academic works like: learning process, reading and comprehension, memory, goal orientation, utilization of resources, peer relations, relationship with teacher, time management, examination and adjustment in academic setting and many other aspects of

academic world. Research also showed that students' self-efficacy is related to various academic and learning tasks (Cheng & Chiou, 2010).

Empirical Review

This section of the work reviews studies conducted by other scholars which are considered relevant to the work. The review is organised under Sub-headings appropriate to the specific purposes.

Teaching Methods and Students' Self Efficacy in Computer Studies

Uba (2006) undertook a study on strategies for enhancing the teaching and learning of computer in secondary schools in Ebonyi State. The study adopted a survey research design. Four research questions were raised to guide the study. A 33-item questionnaire was developed and administered on 190 respondents, which include computer teachers and computer students from eighteen secondary schools in the three zones of the state. Random sampling technique was used in the study while frequency and simple means were used for data analysis. The result of the study revealed that for appropriate methodology, adequate facilities, employment of qualified teachers, establishment of cordial relationship between parents and teachers, instructional materials, practical task, monitoring of students ability and the need for developing problem solving skills to boost students' learning abilities for teaching and learning of computer in secondary schools. This is very much related to this present work except for difference in scope but both work identified methodology and training of teachers as a strategy for improving or enhancing their teaching methods of computer science in secondary schools.

A study by Andreas (2019) on teaching methods for computer science education in the context of significant learning theories answers to the questions of which teaching methods are suitable for school and should be applied in teaching individual subjects. The study mainly focuses on teaching methods for computer science education with respect to significant learning theories. Using an expert survey, subjects rated the importance of behaviouristic,

cognitivist and constructivist learning theories for 20 teaching methods. The result of the study makes it clear that the importance of learning theories for certain teaching methods in computer science education is different. Teaching methods can be assigned to learning theories and can benefit from the empirical findings of the learning theories. Moreover, the result is an important contribution to the development of a theory of teaching methods for computer science education, which is still lacking.

Instructional Materials and Students' Self Efficacy in Computer Studies

Maruff, Gbolagade, Amos and Olawale (2011) carried a research on Instructional Materials and Students' Academic Achievement in Physics. The study examined the effect of using standardized and improvised instructional materials on Academic Achievement of Secondary School Physics Students in Oyo State, Nigeria. The research design adopted was quasi-experimental of the pretest – post test non-randomized control group. Purposive sampling was used to obtain a sample of three co-educational secondary schools. Each school provided one S.S. III class for the study. Two instruments were used in the study, the Physics Achievement Test (PAT) to measure students' achievement and Teachers Instructional Guide (TIG) to train the teachers in the experimental groups. The instrument was pilot tested to ascertain reliability. The reliability coefficient was 0.76. Three hypotheses were formulated and tested at 0.05 level of significance. Data were analysed using ANOVA and ANCOVA. Findings revealed that there is a significant difference in the achievement of students taught using standard instructional materials, those taught with improvised instructional material and those in the conventional instruction. Thus, the students taught with improvised instructional materials obtained the highest achievement score at post test ($F=74.94$), followed by those with standard instructional materials ($F=63.07$), while the control group scored the lowest ($F=39.89$). Also, there was no significant effect of gender on students' achievement in Physics although, females did better than males. Finally, there was no significant

interaction effect of treatment and gender on student achievement in Physics. Thus, Physics teachers need to be resourceful in instructional materials selection, planning and utilization so as to reduce the cost of production and maintenance of instructional materials. The researchers conclude that the utilization of improvised instructional materials promote and enhance effective teaching-learning process, thus, Physics teachers should be encouraged to use them in secondary education.

Sale (2016) worked on The Place of Instructional Materials in Quality Teaching at Primary School Level in Katsina Metropolis, Katsina State, Nigeria. The use of instructional materials is an indispensable tool that enhances qualitative teaching and learning especially at the primary level and secondary. Instructional materials are used to facilitate comprehension of ideas in the learners as well as ensure long term retention of ideas and topics taught to pupils. This study examined the relevance of using instructional materials at primary schools in Katsina metropolitan, Nigeria. The population of this study comprised 958 teachers and 5999 primary six pupils in the forty-seven (47) public Primary schools in Katsina metropolis, Katsina State Nigeria. The study employed survey design using cluster sampling technique. The questionnaire was used to gather data for analysis, and statistical and frequency tables were used to analyze the data gathered. The following findings were made: 1. Instructional materials are at the heart of learning and without which effective learning is far from achievable. 2. Once instructional materials are used in teaching and learning, pupils are anxious to learn, and their level of understanding is improved. 3. The extent to which the instructional materials are used in teaching is the extent to which the pupils learn. 4. The majority of teachers appreciate the significance of instructional materials in teaching and learning process, especially at the primary school level. The results showed that teachers and students alike had realized the effectiveness of modern instructional materials in teaching and learning for the attainment of set objectives in the basic primary education policy. It also observed that reluctance in the use of instructional materials would hamper the achievement of qualitative primary

education. The study, therefore, suggested that there should be the provision of adequate and up-to-date instructional materials to all primary schools in Katsina State for effective teaching and learning.

Physical Facilities and Students' Self Efficacy in Computer Studies

Akomolafe and Olubunmi (2016) carried out a research on The Impact of Physical Facilities on Students' Level of Motivation and Academic Performance in Senior Secondary Schools in South West Nigeria. The paper examines the relevance of physical facilities in enhancing the level of motivation and the academic performance of senior secondary school students in South West Nigeria. The study adopted ex-post facto design. The population consisted of all senior secondary students in South West Nigeria. The sample for the study was one thousand and one fifty (1,150) senior secondary school students from three states out of the six states in the South West Geo-political zone. The sampled states are Osun, Ondo and Ekiti. The researcher made use of a questionnaire and an inventory to collect data. A researcher developed questionnaire tagged "Motivation and Academic Performance of Senior Secondary School Students" (MAPSSS) was used to elicit data from the respondent. The result showed that there was a significant relationship between physical facilities and students' level of motivation and academic performance. Based on the findings of the study, they recommended that more physical, human and material resources that are of high quality should be made available in public school to motivate students towards learning. Priority should be given to allocation of funds to make the public school conducive for teaching and learning to take place; this will improve the academic standard of public schools especially in learning computer science. This result is important to this study because if students are motivated through physical facilities, it would build and improve students self efficacy in learning computer science.

Osaruchi and Kalagbor (2021) Conducted a research on Perceived Influence of School Physical Facilities on Students' Academic Performance in Public Secondary Schools in Rivers State. The study examined influence of physical facilities on students' academic performance

in government owned secondary schools in Rivers State. To achieve the purpose of this study, the researcher developed three (3) objectives of the study, research questions and hypotheses that guided the study. The study made use of descriptive survey design for the research design. The population of the study consisted of all the principals and teachers in public secondary schools in Port Harcourt City Local Government Area of Rivers State with a population of 2,500 principals and teachers. The sampling technique used for this study was the simple random sampling technique with a sample size of 400 principals and teachers. The instrument used for the study was a self-structured or developed questionnaire. The data collected were analysed using mean and standard deviation for the research questions while the null hypotheses were tested using t-test statistical tool at 0.05 level of significant. Based on the analysis, the findings of the study revealed that physical facilities in secondary schools include teaching facilities, learning facilities and recreational facilities. It also indicated that teaching, learning and recreational facilities had both positive and negative impacts on the academic performance of the students. However, the researcher recommended that government should provide current teaching facilities; government, non-governmental organization or multinational oil companies should provide the students with learning facilities and government should ensure that there are recreational facilities in each of the public secondary schools in the state to enhance teaching and learning.

Hinneah and Manful (2019) carried out a study on class Size and Academic performance of students in selected nursing and midwifery training colleges in the central region, Ghana. The sequential explanatory mixed methods design was used for the study. For the quantitative phase of the study, stratified and simple random sampling techniques were employed to select 131 students while census sampling frame was employed to involve all the 56 tutors. Also, 20 participants made up of 10 tutors (who were Heads of Departments) and 10 student leaders were purposively selected for the qualitative phase. Two related structured questionnaires (one for the students and the other for the tutors) were used to gather data for the quantitative phase

while a semi-structured interview guide was employed for data collection at the qualitative phase. Descriptive statistics (mean, standard deviation) and inferential statistics (one-way analysis of variance (ANOVA), and multiple regression) were used to analyze the data so as to answer the research hypotheses at a significance level of 0.05. The one way groups ANOVA was used to determine the effect of class size on academic performance. The data gathered through the semi structured interview were also used to support the quantitative results when necessary. The study revealed that class size had an effect on the academic performance of the students, where students in small class size recorded higher performance than their peers in large classes. The study, therefore, concluded that classroom size significantly influenced academic performance of students at all levels. The relationship between classroom size and academic performance was found to be inversely related. The finding was that, students in large classrooms performed poorly while students in small classroom size performed better academically. Based on the finding, the study recommended that it was pertinent that the management of the colleges studied pay attention to the class sizes, so as to ensure good academic performance.

Joseph and Philias (2011) researched on class size and academic achievement of secondary schools in Ekiti, State, Nigeria. The study looked at class sizes as it related to academic performance. The research respondents for this study were final year students of schools in the rural and urban areas of Ekiti state, Nigeria. A total of 50 secondary schools formed the target population comprising 4 Federal unity schools and 64 public schools. The schools were those that sat for the West African School Certificate Examinations (WASCE) between 1990 and 1997. Students' Class Size Questionnaire (SCSQ) was the instrument used for data collection. Data were analysed using mean and t-test. The results showed that there was no significant difference in the academic achievement of students in small and large classes from urban schools. ($t=1.49$; $< p0.05$). There was no significant difference between performance of students from rural large and rural small classes ($t=0.58$; 0.05). It was

recommended that policy makers and government should ensure that more classrooms are built and number of students in a class should not be more than 30.

Summary of Literature Review

In this chapter, the researcher reviewed the conceptual framework, theoretical and empirical foundation of this study. The conceptual framework explained the key concepts of this study with a diagram and related the influences of the independent variables (teaching methods, instructional materials and physical facilities) on students' self efficacy in learning of computer studies. Theories that provide fundamental information for the study, including Jean Piaget's constructivism learning theory and Albert Bandura self efficacy theory to education practice were reviewed. The review of this study acknowledged that teaching computer science in secondary schools would produce computer-literate citizens who can survive in this competitive digital age when ICT dominates the world. Their ability to use computers benefits their ability to communicate both within and outside of the classroom. As they graduate from secondary school, it may also enable them to work for themselves. That is, they become entrepreneurs (self employed).

Although, there are many researchers that have carried out related research work on this topic especially as it relates to ICT, digital age and computer generally, there is yet to be any work or limited work done within the scope of this study and this is the gap this study intends to fill.

CHAPTER THREE

METHODOLOGY

This chapter dealt with procedures that were used in conducting this research work. The chapter focused on the design of the study, population of the study, sample and sampling technique, research instrument, validity of the instrument, reliability of the instrument, method of data collection and method of data analysis.

Research Design

The correlation survey design was used for this research. It was considered appropriate since the researcher utilized the primary data gathered through the questionnaire to establish the relationship between schools related factors as predictors of students' self efficacy in learning of computer studies in senior Secondary school in Oredo Local Government Area of Edo state.

Population of the Study

The population of this study is 3641 which comprised of all SS2 students in the 14 public senior secondary schools in Oredo Local Government Area of Edo State. (Ministry of Education Office, 2022) (See table 1).

Table I: The population of SS2 students in public senior secondary schools in Oredo Local Government Area, Edo State.

S/N	NAME OF SCHOOLS	SS2		TOTAL
		BOYS	GIRLS	
1	Anglican G. G/S	0	150	150
2	Edo College	156	0	156
3	Edokpolor G/S	328	0	328
4	Emotan College	0	183	183
5	New Era College	0	351	351
6	Idia College	0	900	900
7	Ihogbe [Regular & special]	190	102	292
8	Imaguero College	0	317	317
9	Iyekogba S/S	94	108	202
10	Oba Akenzua	130	70	200
11	Oba Ewuare	113	65	178
12	Oba Palace	18	0	18
13	Ogbe S/S	73	52	125
14	Oredo Girls'	0	241	241
	TOTAL	1102	2539	3641

Source: Ministry of Education, Oredo L.G.A., Edo State (2022).

Sample and Sampling Techniques

The sample size of this study was 187 SS2 students selected from the 14 public senior secondary schools in Oredo Local Government Area of Edo state. The simple random sampling technique was used in order to represent student population adequately in the study. The sample size is 5% of the total population as supported by Gay (2009) The SS2 students were chosen because at this level of education they have started developing self efficacy for what

they want to become and foremost, the SS1 and SS3 students population seem unstable due to increase or decrease in enrollment respectively.

Table 2: the sample size of SS2 students in public senior secondary schools in Oredo Local Government Area

S/N	NAME OF SCHOOLS	No. of SS2	Sample by 5%
1	Anglican G. G/S	150	8
2	Edo College	156	9
3	Edokpolor G/s	328	16
4	Emotan College	183	10
5	New Era College	351	18
6	Idia College	900	45
7	Ihogbe [Regular & special]	292	15
8	Imaguero College	317	16
9	Iyekogba S/S	202	10
10	Oba Akenzua	200	10
11	Oba Ewuare	178	9
12	Oba Palace	18	1
13	Ogbe S/S	125	7
14	Oredo Girls'	241	13
	TOTAL	3641	187

The simple random sampling method was adopted in choosing the respondents from each school.

Research Instrument

The instrument for data collection was a structured questionnaire. The questionnaire was titled "School Related Factors as Predictors of Students' Self Efficacy in Learning of Computer Studies" (SRFPSSELCS). The instrument has three sections: A, B and C. Section A will elicit the demographic data of the respondents. Section B contained fifteen (15) items developed to reflect the research questions. Likert scale method was used with response format of: VE= Very Effective, E=Effective, FE=Fairly Effective, IE=Ineffective and VIE=Very

Ineffective valued as 5,4,3,2 and 1 respectively while section C contained five (5) items to reflect self efficacy in computer studies with likert scale rresponse format of: MLM=Most Like Me, LM=Like Me, PLM=Partially Like Me, UL: Unlike Me and MUM=Most Unlike Me. The response format is such that respondents only have to tick an option that is most applicable to them from five options provided for each question.

Validity of the Instrument

To determine the validity of the instrument, the drafted questionnaire developed by the researcher, was presented to the project supervisor to vet, and make his input. Furthermore, the questionnaire was presented to three experts, one in measurement and evaluation, and two in counselling psychology of the Department of Education, Benson Idahosa University, Benin City for further vetting and necessary inputs. This was to ensure the content and face validity of the instrument.

Reliability of the Instrument

To ascertain the reliability of the instrument, 30 copies of the instrument were administered on students that were not part of the sample of the study and to ascertain the Internal Consistency of the instrument, data collected were analyzed using the Cronbach Alpha statistics. This was done by calculating the Cronbach Alpha for each of the items on the scale then adding up the coefficients to determine the reliability of the instrument which yielded the co-efficient values of 0.7 for school related factors and .76 for students' self-efficacy in computer studies. This implied that the Instrument was good enough and could be used to elicit responses from the respondents.

Method of Data Collection

The questionnaire was administered by the researcher and with help of a research assistant to respondents with the instructions carefully stated and explained after obtaining necessary permission from the various school authorities concerned. The respondents were given real

time to respond to the various items after which the questionnaire were retrieved immediately to avoid misplacement or mutilation on the instrument.

Method of Data Analysis

The Pearson's Product Moment Correlation (PPMC) and linear regression were used as the statistical tools for data analysis. The PPMC was used to answer the research questions and the linear regression was used to test the research hypotheses.

The decision rule for the use of PPMC statistic was based on a range of coefficient value (r) as recommended by Uzoagulu (2011) in the following order: Coefficient r -value between $\pm .4$ and $\pm .6$ means moderate correlation: $\pm .1$ and $\pm .4$ means low correlation ; ± 1.0 means perfect correlation; and the coefficient r -value of 0 means no correlation. Note that when a coefficient r -value is a negative value, it is a negative correlation; which means also that as one variable increases the other decreases. When a coefficient r -value is a positive value, it is a positive correlation; which means that as one variable increases the other increases. For the use of linear regression statistic, the probability p -value less than or equal to 0.5 implies significant (reject H_0) while probability p -value greater than 0.5 implies not significant (accept H_0).

CHAPTER FOUR

ANALYSIS OF DATA AND PRESENTATION OF RESULTS

This chapter presents the summary of the analysis of the data collected from the respondents drawn from the area of study. The results are presented in relation to the research questions and the hypotheses stated in chapter one. These are as follows:

Research Question 1

What is the level of students self efficacy among secondary school students in Oredo local government area.

The summary of the level of self efficacy in studies among secondary school students in Oredo Local Government Area is presented in Table 3.

Table 3: Summary of the Descriptive Statistics of the Level of Students' Self Efficacy in Computer Studies in Oredo Local Government Area.

S/N	Item	N	Sum	S	Mean	Decision
1	Confidence in achieving most of the goals they have set for themselves in learning computer	188	830	1.26	4.41	High
2	Certainty of success using the computer base test (CBT) for examinations	188	773	1.40	4.11	High
3	Confidence in the ability to use the CoreDraw application software to draw very well	188	666	1.54	3.3.54	Moderate
4	Comparative confidence of performing tasks (calculations) effectively using the Microsoft Excel spreadsheet software	188	679	1.69	3.61	High
5	The hope to succeed at almost any computer program and software to which they set their minds to learn.	188	777	1.64	4.13	High

Table 3 showed that four of the indicators (1, 2, 4,& 5) of students' self efficacy in computer studies among secondary school students in Oredo Local Government Area are high with values of 4.41, 4.11, 3.61, 4.13 in a 5-point scale respectively while one indicator (3) is moderately high (3.35) and their standard deviations are 1.26, 1.40, 1.69, 1.64 and 1.54 respectively. Table 4-6 showed the factors that are possibly responsible for these levels of self efficacy in computer studies among secondary school students in Oredo Local Government Area.

Research Question 2

What is the level of relationship between teaching methods and the students' self efficacy in computer studies?

The summary of the partial correlation between teaching methods and students' self efficacy in computer studies is shown in Table 4

Table 4: Summary of the Coefficients of Partial Correlation between Teaching Methods and Students Self Efficacy

Variable	Control Variable:	N	Degree of Freedom (df)	Partial r	Remark
Lecture method (LM)	class and class	184	182	.094	Very low
Learners' centered method (LCM)	-dito-	184	182	.283	Low
Demonstration method (DM)	-dito-	184	182	.179	Low
Project method (PM)	-dito-	184	182	.273	Low
Field trip method (FTM)	-dito-	184	182	.345	Moderate

Table 4 showed that the coefficients of the level of partial correlation between self efficacy in computer studies and teaching methods (LM, LCM, DM, PM & FTM) are .094, .283, .179, .273 and .345 and rated as very low, low, low, low and moderate based on the scale respectively.

Research Question 3

What is the level of relationship between instructional materials and the students' self efficacy in computer studies in Oredo Local Government Area?

The summary of the partial correlation between instructional materials and students' self efficacy in computer studies is shown in Table 5

Table 5: Summary of the Coefficients of Partial Correlation between Instructional Materials and Students Self Efficacy

Variable	Control Variable:	N	Degree of Freedom (df)	Partial r	Remark
Computer Gadgets (CG)	Gender, class and class size	184	182	.358	Moderate
Pie chart(PC)	-dito-	184	182	.138	Low
Projector Gadgets (PG)	-dito-	184	182	.234	Low
White Board Marker (WBM)	-dito-	184	182	.061	Low
Text Books (TB)	-dito-	184	182	.249	Low

Table 5 showed that the coefficients of the level of partial correlation between self efficacy in computer studies and instructional materials (CG, PC, PG, WBM & TB) are .358, .138, .234, .061 and .249 and rated as moderate, low, low, low and low respectively.

Research Question 4

What is the level of relationship between school facilities and students' self efficacy in computer studies?

The summary of the partial correlation between school facilities and students' self efficacy in computer studies is shown in Table 6

Table 6: Summary of the Coefficients of Partial Correlation between School Facilities and Students Self Efficacy

Variable	Control Variable:	N	Degree of Freedom (df)	Partial r	Remark
Classroom (CM)	Gender, class	184	182	.657	High
Library (LIB)	-dito-	184	182	.613	Moderate
Laboratory (LAB)	-dito-	184	182	.622	Moderate
Sport Complex (SC)	-dito-	184	182	.531	Moderate
Staff Room (SR)	-dito-	184	182	.598	Moderate

Table 6 showed that the coefficients of the level of partial correlation between self efficacy in computer studies and school facilities (CM, LIB, LAB, SC & SR) are .657, .613, .622, .531 and .598 and rated as high, moderate, moderate, moderate and moderate respectively.

Hypothesis 1

The level of students self efficacy in computer studies among secondary school students in Oredo Local Government Area is not significant.

The summary of the one sample t - test of the level of self efficacy in computer studies among secondary school students in Oredo Local Government area is presented in Table 7.

Table 7: Summary of the One Sample t- test of the Level of Students' Self Efficacy in Computer Studies in Oredo Local Government Area.

S/N	Item	N	Mean	df	t	P-value	Decision
1	Confidence in achieving most of the goals they have set for themselves in learning computer	188	4.41	187	48.10	.00	Significant
2	Certainty of success using the computer base test (CBT) for examinations	188	4.11	187	40.25	.00	Significant
3	Confidence in the ability to use the CoreDraw application software to draw very well	188	3.35	187	29.83	.01	Significant
4	Comparative confidence of performing tasks (calculations) effectively using the Microsoft Excel spreadsheet software	188	3.61	187	29.29	.00	Significant
5	The hope to succeed at almost any computer program and software to which they set their minds to do.	188	4.13	187	34.53	.00	Significant

Table 7 showed that the t-values of the indicators of students self efficacy in computer studies in secondary schools in Oredo Local Government Area are 40.25, 29.83, 29.29 and 34.53 respectively and all of them are significant with p-values ranging from .00 to .01

Hypothesis 2

Teaching methods are not significant predictors of students' self efficacy in computer studies

The summary of the regression analysis between teaching methods and students' self efficacy and moderators in computer studies is shown in Table 8

Table 8: Summary of the Coefficients of Regression Analysis between Teaching Methods and Students Self Efficacy

Variable/Moderator	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Decision
	B	Std. Error	Beta			
Learner centered method (LCM)	.995	.250	.280	3.98	.000	Reject Ho
Constant	18.895	2.505		7.54	.000	
Demonstration (D)	.688	.280	.177	2.46	.015	Reject Ho
Constant	20.555	2.630		7.82	.000	The effect of the method is significantly influenced by class and class size
Class	-2.160	.968	-.160	-2.23	.027	
Class size	.851	.414	.149	2.05	.041	
Project Method (PM)	.801	.210	.270	3.82	.000	Reject Ho
Constant	22.297	2.187		10.19	.000	The effect of the method is significantly influenced by class and class size
Class	-2.884	.954	-.213	-3.02	.003	
Class size	.781	.402	.136	1.94	.054	
Field Trip (FT)	.784	.158	.339	4.95	.000	Reject Ho
(Constant)	19.862	2.254		8.81	.000	The effect of the method is significantly influenced by class and class size
Class	-1.909	.925	-.141	-2.07	.040	
Class size	.873	.393	.153	2.22	.028	
Lecture method (LM)	.273	.214	.096	1.28	.204	Don't reject Ho
Constant	23.795	2.225		10.69	.000	The effect of the method is significantly influenced by class
Class	-2.676	1.011	-.198	-2.65	.009	

Table 8 showed that the coefficients of multiple regression between self efficacy in computer studies and teaching methods (LCM, D, PM, FT & LM) are .280, .177, .270, .339 and .096 respectively with t values of 3.98, 2.46, 3.82, 4.95 and 1.28, respectively. And all t values apart from the t value for lecture method (1.28) are significant with p values ranging from .00 to .05. The effects of D, PM, and FT are significantly moderated by class and class size while LM is not significant and the effect is significantly moderated negatively by class.

Hypothesis 3

Instructional resources are not significant predictors of students' self efficacy

The summary of the regression analysis between instructional materials and students' self efficacy and moderators in computer studies is shown in Table 9

Table 9: Summary of the Coefficients of Regression Analysis between Instructional Resources and Students Self Efficacy

Variable/Moderator	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Decision
	B	Std. Error	Beta			
Computer gadgets (CG)	1.155	.223	.351	5.180	.000	Reject Ho
Constant	18.540	2.336		7.935	.000	The effect of the resources is significantly influenced by class
Class	-2.133	.916	-.158	-2.328	.021	
Pie chart (PC)	.351	.187	.137	1.878	.062	Don't reject Ho
Constant	22.361	2.396		9.331	.000	The effect of the method is significantly influenced by class and class size
Class	-2.099	.980	-.155	-2.143	.033	
Class size	.828	.418	.145	1.982	.049	
Projector gadgets(PG)	.610	.188	.233	3.248	.001	Reject Ho
Constant	20.943	2.372		8.830	.000	The effect of the resources is significantly influenced by class and class size
Class	-2.073	.957	-.153	-2.167	.032	
Class size	.953	.412	.166	2.311	.022	
White board marker (WBM)	.192	.233	.060	.826	.410	Don't reject Ho
Constant	23.400	2.400		9.752	.000	The effect of the material is significantly influenced by class
Class	-2.347	.979	-.174	-2.398	.018	
Text books (TB)	.786	.227	.244	3.470	.001	Reject Ho

Constant	20.550	2.386		8.613	.000	The effect of the materials is significantly influenced by class
Class	-2.095	.952	-.155	-2.200	.029	

Table 9 showed that the coefficients of multiple regression between self efficacy in computer studies and instructional resources (CG, PC, PG, WBM & TB) are .351, .137, .233, .060 and .244 with t values of 5.18, 1.88, 3.25, .83 and 3.47, respectively. And all t values (apart from the t values for pie chart and white board marker -1.37 and .060 respectively) are significant with p values at .00. The effect of three instructional resources - CG, WBM and TB are significantly moderated by class while the effects of PC and PG are significantly moderated by class and class size.

Hypothesis 4

School facilities are not significant predictors of students' self efficacy in computer studies

The summary of the regression analysis between school facilities and students' self efficacy and moderators in computer studies is shown in Table 10

Table 10: Summary of the Coefficients of Regression Analysis between School Facilities and Students Self Efficacy

Variable/Moderator	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Decision
	B	Std. Error	Beta			
Classroom(CR)	2.457	.209	.648	11.752	.000	Reject Ho
Constant	12.168	1.958		6.215	.000	The effect of the facility is significantly influenced by class
Class	-1.591	.742	-.118	-2.144	.033	
Library (LIB)	1.797	.172	.605	10.457	.000	Reject Ho
Constant	14.731	1.970		7.478	.000	Reject Ho
Laboratory (LAB)	1.764	.165	.614	10.714	.000	
Constant	15.685	1.907		8.224	.000	Reject Ho
Sport complex (SC)	1.862	.220	.528	8.449	.000	
Constant	16.095	2.107		7.639	.000	
Class	-1.916	.833	-.142	-2.301	.023	The effect of the facility is significantly influenced by class

Staff room (SR)	1.457	.145	.589	10.055	.000	Reject Ho
Constant	17.047	1.912		8.914	.000	The effect of the facility
Class	-1.613	.790	-.119	-2.042	.043	is significantly influenced
Class size	.656	.335	.115	1.960	.052	by class and class size

Table 10 showed that the coefficients of multiple regressions between self-efficacy in computer studies and school facilities (CR, LIB, LAB, SC & SR) are .648, .605, .614, .528 and .589 respectively with t values of 11.75, 10.46, 10.71, 8.45 and 10.06, respectively. And all t values are significant with p values at .00. The effect of two facilities – CR and SC are significantly moderated by class while the effect of SR is significantly moderated by class and class size.

Summary of Major Findings

1. Four of the indicators of students' self-efficacy in computer studies among secondary school students in Oredo local government are high with values of 4.41, 4.11, 3.61, 4.13 in a 5-point scale respectively while one indicator is moderately high (3.35) and their standard deviations are 1.26, 1.40, 1.69, 1.64 and 1.54 respectively. The t-values of the indicators of students self-efficacy in computer studies are 40.25, 29.83, 29.29 and 34.53 respectively and all of them are significant with p-values ranging from .00 to .01.
2. The coefficients of multiple regression between self-efficacy in computer studies and teaching methods (LCM, D, PM, FT & LM) are .280, .177, .270, .339 and .096 respectively with t values of 3.98, 2.46, 3.82, 4.95 and 1.28, respectively. And all t values apart from the t value for lecture method (1.28) are significant with p values ranging from .00 to .05. The D, PM, and FT are significantly moderated by class and class size while LM is not significant and the effect is significantly moderated negatively by class.
3. The coefficients of multiple regression between self-efficacy in computer studies and instructional resources (CG, PC, PG, WBM & TB) are .351, .137, .233, .060 and .244

respectively with t values of 5.18, 1.88, 3.25, .83 and 3.47, respectively. And all t values (apart from the t values for pie chart and white board marker -1.37 and .060 respectively) are significant with p values at .00. The effects of three instructional resources - CG, WBM and TB are significantly moderated by class while the effects of PC and PG are significant moderated by class and class size.

4. The coefficients of multiple regression between self-efficacy in computer studies and school facilities (CR, LIB, LAB, SC & SR) are .648, .605, .614, .528 and .589 respectively with t values of 11.75, 10.46, 10.71, 8.45 and 10.06, respectively. And all t values are significant with p values at .00. The effects of two facilities – CR and SC are significantly moderated by class while the effect of SR is significantly moderated by class and class size.

Discussion of Results

This study Investigated school-related variables and students' self-efficacy in learning computer science in senior secondary schools. It showed that four out of five of the indicators of students' self-efficacy in computer studies among secondary school students in Oredo Local Government Area are high with values of 4.41, 4.11, 3.61, 4.13 in a 5-point scale respectively while one indicator is moderately high (3.35) and their standard deviations are 1.26, 1.40, 1.69, 1.64 and 1.54 respectively. The t-values of the indicators of students self-efficacy in computer studies are 40.25, 29.83, 29.29 and 34.53 respectively and all of them are significant with p-values ranging from .00 to .01. This study explored the relationship between school-related variables and students' self-efficacy in learning computer science within Oredo Local Government, Nigeria. The findings revealed that students demonstrated high levels of self-efficacy in various aspects of computer science, such as confidence in performing tasks and applying knowledge to real-world situations. This suggests that schools within the local government are providing a relatively supportive learning environment for computer science education. However, the study also revealed a moderately high level of self-efficacy in

overcoming challenges related to learning computer science. This suggests that while students are generally confident in their abilities, they may face difficulties when confronted with complex problems or setbacks. This finding underscores the need for further efforts to support students in developing their problem-solving skills and resilience in the face of challenges. The study's findings resonate with existing research emphasizing the critical role of school-related variables in shaping students' self-efficacy. This aligns with the work of Osaruchi and Kalagbor (2021), who investigated the impact of teaching, learning, and recreational facilities on students' academic performance. Their findings suggest that these variables can have both positive and negative influences, highlighting the importance of creating a well-rounded learning environment that caters to diverse student needs. Additionally, the study's findings are consistent with Akomolafe and Olubunmi (2016), who emphasized the need for adequate physical, human, and material resources in public schools to motivate students and enhance learning. This translates to the need for Oredo Local Government schools to invest in high-quality equipment, software, and other resources to support computer science instruction and student engagement. Although, Maruf, Gbolagade, Amos and Olawale (2011) opined that the utilization of improvised instructional materials promotes and enhance effecting teaching and learning process where there are no standardized and quality materials or equipment. The findings revealed that there is no significant difference in the achievement of students taught using standardized instructional materials, those taught with improvised instructional material and those in the conventional instruction. Thus, physics teachers were encouraged to use more of improvised instructional materials in secondary schools especially, where there are no standardized and quality materials or equipment as this motivates students and enhance learning.

The second set of findings show that the coefficients of multiple regressions between self-efficacy in computer studies and teaching methods (LCM, D, PM, FT & LM) are .280, .177, .270, .339 and .096 respectively with t values of 3.98, 2.46, 3.82, 4.95 and 1.28, respectively.

And all t values apart from the t value for lecture method (1.28) are significant with p values ranging from .00 to .05. The effects of D, PM, and FT are significantly moderated by class and class size while the LM is not significant and the effect is significantly moderated negatively by class. This study aligns with previous research by Uba (2006) and Andreas (2019) which found that the teaching methods can significantly improve students' self-efficacy in computer studies. Uba (2006) found that appropriate methodology, adequate facilities, employment of qualified teachers, establishment of cordial relationship between parents and teachers, instructional materials, practical task, monitoring of students ability and the need for developing problem solving skills to boost students' learning abilities for teaching and learning of computer in secondary schools. Similarly, Andreas (2019) found that the importance of learning theories for certain teaching methods in computer science education is different and that teaching methods can be assigned to learning theories and can benefit from the empirical findings of the learning theories. Joseph and Philias (2011) and Hinneh and Manful (2019), observed that class size alone may not be a decisive factor in academic performance. Joseph and Philias, (2011) found that there was no significant difference in the academic achievement of students in small and large classes from urban schools, and there was no significant difference between performance of students from rural large and rural small classes, while Hinneh and Manful (2019) found that the relationship between classroom size and academic performance was inversely related and that students in large classrooms performed poorly while students in small classroom size performed better academically. The work concluded that classroom size significantly influenced academic performance of students at all levels. Based on their finding, the study recommended that it was pertinent that the management of the colleges studied pay attention to the class sizes, so as to ensure good academic performance.

The third finding showed that the coefficients of multiple regressions between self-efficacy in computer studies and instructional resources (CG, PC, PG, WBM & TB) are .351, .137, .233, .060 and .244 respectively with t values of 5.18, 1.88, 3.25, .83 and 3.47,

respectively. And all t values (apart from the t values for pie chart and white board marker - 1.37 and .060 respectively) were significant with p values at .00. The effects of three instructional resources - CG, WBM and TB were significantly moderated by class while the effects of PC and PG were significant moderated by class and class size. Evidence suggests that using improvised instructional materials can boost student self-efficacy in learning. This study's findings resonate with those of Sale (2016) and Maruff et al. (2011) who both demonstrated the effectiveness of modern instructional materials in achieving educational goals and highlighted the efficiency of both standard and improvised materials in teaching and learning physics. Sale, (2016) findings showed that teachers and students alike had realized the effectiveness of modern instructional materials in teaching and learning for the attainment of set objectives in the basic primary education policy. The study also observed that reluctance in the use of instructional materials would hamper the achievement of qualitative primary education. Additionally, Maruff, Gbolagade, Amos and Olawale (2011) found that using standard and improvised instructional materials is very efficient and effective in the teaching and learning of physic. Thus, the students taught with improvised instructional materials obtained the highest achievement score at post test), followed by those taught with standard instructional materials, while the control group scored the lowest. The study, therefore, suggested that there should be the provision of adequate and up-to-date instructional materials to all primary schools in Katsina State for effective teaching and learning. Consequently, incorporating these materials into secondary education is strongly recommended.

Finally the study showed that the coefficients of multiple regressions between self efficacy in computer studies and school facilities (CR, LIB, LAB, SC & SR) are .648, .605, .614, 528 and .589 respectively with t values of 11.75, 10.46, 10.71, 8.45 and 10.06, respectively. And all the t values are significant with p values at .00. The effects of two facilities – CR and SC are significantly moderated by class while the effect of SR is

significantly moderated by class and class size. This study investigated the relationship between school facilities and students' self-efficacy in learning computer science. The results revealed a significant impact of facilities on student confidence and motivation, supporting the findings of Akomolafe and Olubunmi (2016). Their research emphasized the need for adequate physical, human, and material resources in public schools to create a stimulating learning environment and foster student engagement. Furthermore, the study highlights the importance of prioritizing fund allocation to enhance the overall learning environment within public schools. By investing in high-quality facilities, schools can create a more conducive space for teaching and learning, ultimately contributing to improved academic performance, particularly in computer science education. This finding holds significant weight for the present study, as it underscores the interconnectedness between physical resources and student self-efficacy. When students are provided with well-equipped and engaging facilities, it can significantly boost their motivation and confidence in learning computer science. This study contributes to a growing body of research that underscores the importance of school infrastructure in shaping student academic outcomes. By prioritizing the improvement of facilities and creating a conducive learning environment, schools can empower students and equip them with the necessary skills and knowledge to succeed in the digital age. The study suggest that the education provider should allocate sufficient funds to improve and maintain school facilities, including computer labs, classrooms, and libraries, to ensure they are equipped with modern technology and resources. Also, to prioritize resource allocation based on identified needs and ensure equitable distribution across different schools to address disparities and guarantee access to high-quality facilities for all students. To foster collaboration between government agencies, educational institutions, and private partners to secure funding and support for facility improvement initiatives, encourage community engagement in school facility maintenance and development projects to promote ownership and responsibility for creating a positive learning environment. Lastly, implement ongoing monitoring and evaluation of school facilities to assess their

adequacy and effectiveness in supporting student learning outcomes. By implementing these recommendations, schools can leverage the impact of improved facilities on student self-efficacy and create a more stimulating and engaging learning environment for computer science education, ultimately empowering students to thrive in today's technology-driven world.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study examined the influence of various school-related variables on senior secondary school students' self-efficacy in learning computer science within Edo State, Nigeria. To guide the investigation, four research questions were formulated and four corresponding hypotheses were tested. The following are the research questions and hypotheses:

1. What is the level of students' self-efficacy among secondary school students in Oredo local government area?
2. What is the level of relationship between teaching methods and the students' self-efficacy in computer studies?
3. What is the level of relationship between instructional materials and students' self-efficacy in computer studies in Oredo local government area?
4. What is the level of relationship between school facilities and students' self-efficacy in computer studies?

The following null hypotheses were formulated and were tested at 0.05 level of significance

1. The level of students' self-efficacy in computer studies among secondary school students in Oredo local government area is not significant.
2. Teaching methods are not significant predictors of students' self-efficacy in computer studies
3. Instructional resources are not significant predictors of students' self-efficacy
4. School facilities are not significant predictors of students' self-efficacy in computer studies

1. Four of the indicators of students' self-efficacy in computer studies among secondary school students in Oredo local government were high with values of 4.41, 4.11, 3.61, 4.13 in a 5-point scale respectively while one indicator is moderately high (3.35) and their standard deviations were 1.26, 1.40, 1.69, 1.64 and 1.54 respectively. The t-values of the indicators of students self-efficacy in computer studies were 40.25, 29.83, 29.29 and 34.53 respectively and all of them were significant with p-values ranging from .00 to .01
2. The coefficients of multiple regression between self-efficacy in computer studies and teaching methods (LCM, D, PM, FT & LM) are .280, .177, .270, .339 and .096 respectively with t values of 3.98, 2.46, 3.82, 4.95 and 1.28, respectively. And all t values apart from the t value for lecture method (1.28) were significant with p values ranging from .00 to .05. The D, PM, and FT are significantly moderated by class and class size while LM was not significant and the effect is significantly moderated negatively by class.
3. The coefficients of multiple regression between self-efficacy in computer studies and instructional resources (CG, PC, PG, WBM & TB) are .351, .137, .233, .060 and .244 respectively with t values of 5.18, 1.88, 3.25, .83 and 3.47, respectively. And all t values (apart from the t values for pie chart and white board marker -1.37 and .060 respectively) were significant with p values at .00. The effects of three instructional resources - CG, WBM and TB were significantly moderated by class while the effects of PC and PG were significantly moderated by class and class size.
4. The coefficients of multiple regression between self-efficacy in computer studies and school facilities (CR, LIB, LAB, SC & SR) are .648, .605, .614, .528 and .589 respectively with t values of 11.75, 10.46, 10.71, 8.45 and 10.06, respectively. And all t values are significant with p values at .00. The effects of two facilities – CR and SC are

significantly moderated by class while the effect of SR is significantly moderated by class and class size.

Contribution to Knowledge

This study's findings hold significant educational implications for enhancing computer science learning and student self-efficacy in public senior secondary schools within Edo State, Nigeria. The results highlight the vital role of school-related variables in shaping student confidence and motivation, offering valuable insights for educators, policymakers, and stakeholders involved in computer science education have several key implications as highlighted below:

1. The study underscores the positive impact of well-equipped school facilities on student self-efficacy. This emphasises the need for schools to prioritize resource allocation for modern computers, software, and learning materials, which can significantly enhance student engagement and motivation.
2. The findings emphasise the importance of diverse and engaging teaching methods in promoting students self-efficacy. Implementing project-based learning, discussions, and flipped classroom approaches can foster active participation, collaboration, and problem-solving skills, contributing to increased self-confidence in learning computer science.
3. Providing teachers with ongoing professional development opportunities in computer science pedagogy and effective teaching methods is crucial. This can equip them with the necessary skills and knowledge to create engaging learning environments and foster student self-efficacy.
4. The study's findings emphasise the need for a comprehensive and relevant computer science curriculum that aligns with current technological advancements and industry

needs. This curriculum should be designed to cater for diverse learning styles and provide opportunities for hands-on experience and application of knowledge. Also, the need to implement effective assessment strategies and monitoring student progress is essential for identifying areas of improvement and tailoring interventions accordingly. This can ensure that students receive the necessary support to build their self-efficacy and achieve their full potential in computer science.

By addressing the identified areas for improvement and implementing the proposed recommendations, schools within Edo State can leverage the positive influence of school-related variables on student self-efficacy and create a more conducive learning environment for computer science education. This will ultimately empower students to develop the necessary skills, knowledge, and confidence to thrive in today's technology-driven world and contribute meaningfully to the digital future.

Conclusion

This study investigated the various school-related variables and students' self-efficacy in learning computer science within public senior secondary school in Oredo Local Government Area Edo State, Nigeria. The findings revealed that school-related factors play a crucial role in shaping students' confidence and motivation, significantly impacting their learning success in this vital field. The study highlighted the positive influence of well-equipped school facilities, diverse teaching methods, and positive teacher-student interactions in promoting student self-efficacy. Additionally, the findings suggested that class size and composition would moderate the impact of these variables, emphasizing the need for differentiated learning strategies and individual support. Based on these findings, the study concluded that; teachers should encouraged to implement engaging methods like project-based learning, discussions, and flipped classroom approaches to foster student participation and problem-solving skills. Investment in modern computer hardware, software, and instructional materials to equip

schools with the necessary tools for effective computer science instruction. Lastly, sufficient funds in procuring and maintaining school facilities which includes the computer labs, classrooms, libraries and more because when students are provided with well equipped and engaged facilities, it helps to boost their confidence in learning computer science.

Recommendations

Based on the findings, the study recommended the following to enhance senior secondary school students' self-efficacy in learning computer science within Edo State, Nigeria:

1. Government should allocate sufficient funding and resources to improve and maintain school facilities, including computer labs, classrooms, and libraries, to ensure they are well equipped with modern technology and resources.
2. Government and educational administrators should provide teachers with professional development opportunities in computer science pedagogy and effective teaching methods to equip them with the skills and knowledge to implement diverse and engaging teaching strategies.
3. Educational administrators should have a regular review of computer science curriculum to ensure its alignment with current technological advancements, industry needs and teachers should be encouraged to integrate technology into their lessons and utilize online learning resources to enhance student engagement and access to information and applications. Teachers on the other hand, should design assessment template that accurately measure students' progress in computer science knowledge, skills, and self-efficacy: inform of regular constructive feedback to students in order to identify areas for improvement and track their progress throughout the learning journey.
4. Community partnership with parents to encourage computer science students' by providing workshops and resources to support their understanding and engagement at

home, with local businesses and organizations to provide internship opportunities, guest lectures, and real-world experiences for students to apply their knowledge and skills. By implementing these recommendations and creating a supportive learning environment that prioritizes modern facilities, effective teaching methods, and availability instruction materials, schools within Edo State can empower their students to develop strong self-efficacy in learning computer science. This will ultimately enable them to thrive in the digital age and contribute meaningfully to the future of technology and innovation.

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**SCHOOL RELATED FACTORS AND STUDENTS SELF EFFICACY IN COMPUTER
STUDIES IN PUBLIC SENIOR SECONDARY SCHOOL IN OREDO LOCAL
GOVERNMENT AREA OF EDO STATE**

Department of Education,
Faculty of Arts and Education,
Benson Idahosa University,
Ugbor, G.R.A,
Benin City, Edo State.

Dear Respondents,

REQUEST TO FILL QUESTIONNAIRE

I am a Postgraduate student in the Department of Education, Faculty of Arts and Education, Benson Idahosa University, Benin City, currently carrying out a research on the aforementioned topic. In the light of this, I humbly request your assistance in answering the questions below, which requires you ticking the appropriate boxes. I am assuring you that your responses will be treated with utmost confidentiality and solely for the purpose of this research work.

Thanks for your time and cooperation,

Yours faithfully,

Ediri O. Dick

The Researcher

QUESTIONNAIRE

SCHOOL RELATED FACTORS AND STUDENTS SELF EFFICACY IN COMPUTER STUDIES

SECTION A: DEMOGRAPHIC DATA OF RESPONDENTS

1. Sex Male { } Female { }
2. Class SS 1 { } SS 2 { } SS 3 { }
3. Class size: Below 40 { } A above 40 { }

SECTION B: DEVELOPMENT OF RESEARCH QUIESTIONS

INSTRUCTION: Please, tick in the column the one that best express your opinion about the item statements using the following keys: VE= Very Effective, E=Effective, FE=Fairly Effective, IE=Ineffective and VIE=Very Ineffective

S/N	To what extent would you rate the effectiveness of the following teaching methods:	VE	E	FE	IE	VIE
1	lecture method					
2	learners centered method					
3	demonstration method					
4	project method					
5	field trip					
	To what extent would you rate the effectiveness of the following Instructional Materials:	VE	E	FE	IE	VIE
6	computer gadget					
7	Pie chart					
8	projector gadgets					
9	Whiteboard marker					
10	textbooks materials					

Please, tick in the column the one that best express your opinion about the item statements using the following keys: VA= Very Adequate, A=Adequate, FA=Fairly Adequate, IA=Inadequate and VIA=Very Inadequate

S/N	To what extent would you rate the adequacy of the following Physical Facilities:	VA	A	FA	IA	VIA
11	Classroom					
12	Library					
13	Laboratory					
14	sport complex					
15	staff room					

SECTION C: SELF EFFICACY IN COMPUTER STUDIES

INSTRUCTION: Please, tick in the column the one that best caption your option about yourself using the following to rate yourself: MLM=Mostly Like Me, LM=Like Me, PLM=Partially Like Me, ULM=Unlike Me and MUM=Most Unlike Me

S/N	Rate yourself on these items as applicable	MLM	LM	PLM	ULM	MUM
1.	I will be able to achieve most of the goals that I have set for myself in learning computer					
2.	I am certain of my success using the computer base test (CBT) for my examinations					
3.	I believe I can use the CorelDraw application software to draw very well					
4.	compared to others, I am confident that I can perform tasks (calculations) effectively using the Microsoft Excel spreadsheet software					
5.	in general, i believe i can succeed at almost any computer program and softwares to which I set my mind					

SCHOOL RELATED FACTORS AND STUDENTS SELF EFFICACY IN COMPUTER STUDIES

RELIABILITY TEST

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0

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

1. SCHOOL RELATED FACTORS

Reliability Statistics

Cronbach's Alpha	N of Items
.666	13

Item Statistics

	Mean	Std. Deviation	N
ITM2	4.1333	.89955	30
ITM3	4.3333	1.09334	30
ITM4	4.1333	.93710	30
ITM5	3.8667	1.10589	30
ITM6	4.3333	1.12444	30
ITM7	3.6000	1.13259	30
ITM8	3.9333	1.01483	30
ITM9	3.8333	.94989	30
ITM10	4.4333	.72793	30
ITM11	4.5333	.81931	30
ITM12	3.7667	.93526	30
ITM13	4.2667	.63968	30
ITM15	3.7667	1.04000	30

Item-Total Statistics

	Scale Mean if Item Deleted	Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ITM2	48.8000	26.372	.476	.622
ITM3	48.6000	27.352	.265	.654
ITM4	48.8000	28.372	.233	.657
ITM5	49.0667	28.064	.196	.666
ITM6	48.6000	25.076	.465	.617
ITM7	49.3333	25.816	.389	.632
ITM8	49.0000	27.931	.244	.657
ITM9	49.1000	27.334	.337	.642
ITM10	48.5000	30.259	.099	.672
ITM11	48.4000	29.628	.144	.668
ITM12	49.1667	25.730	.525	.613
ITM13	48.6667	30.023	.164	.664
ITM15	49.1667	27.592	.266	.653

2. STUDENTS SELF EFFICACY IN COMPUTER STUDIES

Reliability Statistics

Cronbach's	
Alpha	N of Items

Reliability Statistics

Cronbach's Alpha	N of Items
.757	5

Item Statistics

	Mean	Std. Deviation	N
ITM16	4.2000	.84690	30
ITM17	4.2000	1.03057	30
ITM18	3.5667	1.10433	30
ITM19	3.6000	1.16264	30
ITM20	3.7000	1.36836	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ITM16	15.0667	11.375	.647	.688
ITM17	15.0667	13.099	.218	.808
ITM18	15.7000	11.252	.448	.740
ITM19	15.6667	9.816	.634	.672
ITM20	15.5667	8.047	.756	.612