

IMPACT OF ICT ON THE EFFECTIVE TEACHING IN SELECTED SECONDARY SCHOOLS IN AKOKO NORTH LOCAL GOVERNMENT AREA OF ONDO STATE.

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Abstract

ICT is an acronym for Information and Communication Technology. In the teaching-learning process, the child has emerged at the center of learning experiences. His life is full of experiences and actions. His senses of seeing, hearing, touching, smelling and tasting form the basis for understanding the environment. It is in this light that Information and Communication Technology (ICT) becomes, very imperative as a companion in the learning process. One of the greatest challenges in ICT use in Education is balancing educational goals with the economic realities. ICT in education programmes requires large capital investments and developing countries need to be prudent in making decisions about what models of ICT use will be introduced so as to consciously maintain economies of scale. This study is carried out to examine the adequate, constructions, effectiveness, facilities and other ICT tools in Akoko North East Local Government Area of Ondo State. The study is limited to both secondary school teachers and students from 10 selected schools, because of time constraints and limited resources. The researchers considered ten (10) secondary schools' teachers and one hundred (100) students both male and female. Equal number of respondents – teachers and students alike were randomly selected from the ten (10) schools. The instrument for this study is a questionnaire: two sets structured questionnaire were administered by the researchers. The study would assist the curriculum planners, parents, government, educators and individuals interested in different subjects teaching in relation to ICT in Nigeria at secondary school.

Keywords: ICT, Education, Learning, Communication, Technology

Introduction

In Nigeria secondary school today, the teaching and learning of computer is important in the policy of education. In early days of computer technology in Nigeria only professionals and students who primarily studied computer science or related courses

could interact with computer system. Now, there is rapid growth and wide use of computer system in virtually all fields of studies such as arts, medicine, law, social science, engineering, technology and education.

Computer which is an electronics device that accepts data as input, processes the data and gives out information as result or output has penetrated every life of human endeavour for the fact that computer is designed to do the following things receive data, process data and give out information. It was revealed in April 2000 by the National Centre for Education Statistics that, between 1996 and 1999 computer and mobile phone have become part of everyday life in Finland. The numbers of students who use computer everyday has grown up, especially among secondary school students. Since the world is a global village, Nigeria cannot afford to ignore the role which computer literacy plays in achieving the national goal of technological development.

Computer is now being offered at the secondary school level of education in Nigeria as one of the science subjects. The subject is meant to acquaint students with the basic skills and knowledge of computer that will fit them directly into the world of work. The National Commission for Computer Education (NCCSE) 1988 outlines the following as the objectives of teaching computer studies at the secondary school (Pg 8 - 12)

- Ability to use and program computers
- Knowledge about the history of computers
- Appreciation of the economic, social and psychological impact of the computer
- the use of computer in problem solving

In spite of this, the performance of students coupled with their attitude to the subject has not been encouraging. Several measures have been recommended to enhance students academic performance in secondary school subjects. Among the measures recommended are appropriate use of teaching methods, electronic media, instructional media and resources.

The reason for using instructional media in the school system is to transmit information in the teaching and learning setting. This is because they are materials that enhance or facilitate effectiveness in the teaching and learning process. Instructional media according to Schramm (1999) is referred to as a basic channel for communication in the class room for the purpose of bringing about effective teaching and learning. That is, instructional media are those materials or objects that help the teacher in making the lesson more interesting to the learners.

It has been observed that using instructional or educational media in teaching and learning make students learn more and retain better what they have been taught and that is also promotes and sustains students interests. It also allows the learners to discover themselves and their abilities. It enriches learner's knowledge and reinforces verbal instruction. In other words, when instructional media is used, there is tendency to make classroom environment lively and interesting.

There are different types of instructional or educational media, depending on what to teach, where to teach and availability of instructional media in that environment.

According to Abimbade (1997), instructional media can be classified into three categories: these are non print media, print media and electronic media.

The printed materials are books, text, maps, journals, while non-print media are projected materials such as films, slides, film strips and electronic media consist of visual, audio and audio visual that relies on electricity to function effectively. All these and more stimulate a sense of observation in learners.

The issue of gender in education has been a recurring decimal in research. As indicated in the Nigeria blue prints on women education (1977 – 1981) several factors affect, female participation in technology. That is, female students often run away from science and technological subjects because of the social pressure and potential altitude of female role models. This tendency has been noticed from secondary schools. Both girls and boys feel that teacher, counselor and parents perceive science subject especially technology as male oriented field course. This perception encourages boys than girls to have flair for technology education no wonder then that inmost organization male are often seen as the head of the computer or information technology section while the female counterparts are somehow found acting as data entry personnel. Shashasi (1993) observed that females are less interested in computer and less confident in the operation of computer than males.

Studies have shown the facilitative roles of instructional media in learning, but most of these studies are in other school subjects apart from computer studies. Being a relatively new subject in the curriculum of Nigerian secondary schools, not much had been reported about the effectiveness of media in its teaching and learning. Also, most teachers assure that computer science does not require any other illustrative device apart from computer itself. The need to verify thus notion partly informs this study.

The research work sought to provide solution to the following and other questions relating to teaching of computer studies by making use of instructional /educational media in some selected secondary schools in Akure South local government.

- How many of the selected schools offer computer studies?
- How many computer teachers are in the school?
- How many period(s) do they have in a week?
- Do the computer teachers teach other subject than computer?
- Do they make use of any instructional media for the teaching of computer?
- How many computers do they have?
- Do they have enough textbooks for students?

Review of Related Literature

Psychologists, Educators and scholars have carried out investigative studies on the role and effect of instructional media on the learning and teaching of computer. These different set of investigators and writers have concerned themselves with genuine effort to identify the need in the teaching and learning of computer.

To simplify and fully comprehend the issue under instigation, it will be of great help and significance to ask these questions: What is teaching? How do you explain that teaching is effective? What is learning? What are instructional media? Why is it important to teach computer by using instructional media?

Teaching

Teaching has been defined long time ago in the traditional way of teaching before the modern system come into existence. The traditional way of defining teaching was highlighted by Osundiran (2000). The aims and activities were concerned to be temporary ability to recite school books, facts, understood partially or not at all and unrelated to the problems and needs of either young people or adult. It is very clear that reciting textbooks, facts and the other written documents cannot lead to learning by a part of it.

Any teaching that does not lead to permanent change in the behaviour is not completed. A modern teacher teaches so as to understand and see with their naked eyes. Mill was trying to point out systematically the importance of instructional material during teaching and learning process.

Oyekan (2000) describes teaching as a set of conscious and deliberate actions intended to induce learning by impacting desirable knowledge, skill and attitudes. It should be a morally desirable and socially acceptable activity whose end result or goal learning in achieving meaningful and logical sequenced learning demand adoption of behaviour objectives because they emphasize the behaviour students should demonstrate by the end of the lesson.

Olasunkanmi (2004) says that teaching appear to be quiet a complex concept. It is body of actions intended to induce learning. He further defines teaching as the “conscious and deliberate effort by a matured or experiences person to impact knowledge, information, skills, attitudes, beliefs e.t.c to immature or less experienced person with the intention that the latter (the immature or less experience person) will learn or believe what he is taught on a rational basic”. One criterion that can be identified from the definition is that there is the assumption that in the process of teaching, a person is consciously and deliberately doing the teaching.

Teaching also connotes a lot of other meaning if used without clarification. It could refer to human action. It involves relationship based on interaction. This interaction is linked to what happens in communication is linked to what happens in communication system whereby we have at one end the sender to the information and at the other the receiver. In the teaching process, the receiver is the one being taught. This referred to in the definition “the immature or less experienced person”. This implies that a learner is logically necessary in the act of teaching. It will not make sense if someone says he is teaching computer to nobody, for except and until the person at the other end receives the information, the teacher has not performed the act of teaching.

The definition also gives a third criterion that of impacting knowledge, information skills, attitudes, beliefs e.t.c. In simple terms, this implies that some content or material in the form of information, knowledge e.t.c is being impacted. It then logically follows that; there must be something to impact in the act of teaching. Teaching therefore only occurs when there is content i.e, something being taught.

The fourth criterion is that there is at least an intention on the part of the person doing the act that the recipient should learn. Teaching involves sharing of the meaning of the subject matter by the teacher and the students.

Finally, we must take note of the fact that the teaching method must be morally sound and accepted. This means that the learner should willingly to learn while he is being taught.

Olasunkunmi (2004) explains that the process of teaching can be divided into four steps. The first step is the presentation. This happens when the teacher presents the subject matter to the students. The subject matter could be information, skills, attitudes, beliefs, etc. the second step is the examination of the information by the students and asking of questions from the teacher. This makes teaching involve rational explanation and critical dialogue. The person who teachers must acknowledge the right of the students to ask questions, to call his judgment to question and to ask for justification of his statements. The third step involves the negotiation of the subject matter by the student and the teacher. This step involves clarification of idea and facts and voluntary acceptance of such facts and ideas. The fourth step involves the sharing of the meaning of the subject matter. This stage is what implies teaching as an achievement.

The Concept of Learning

Over the ages, educationist and psychologist have been known to devote considerable time to what constitutes learning by searching into it and also how to improve it. As a result, several definitions of learning have emerged.

Some defined learning as a change in human behaviour or disposition arising from experience which persists over a period of time and which is not simply ascribable to processes of growth. Learning has also been seen as a sum of the changes which occur in an individual stemming from his responses of representative stimuli, present or past or based on interaction. Learning therefore may lead to attitude formation, perceptions, preference and interests.

According to Okoye (2000), if we regard learning as a relatively permanent change in behaviour arising from experience, then the following words may be regarded as key words before it can take place; permanent, change in behaviour, and experience, learning can hardly take place, it follows therefore that learning can be perceived as a process which involves the learners and what he set to learn and a change in behaviour in order to solve a problem arising from his situational environment. However, not all situations involving change in behaviour can be classified as learning situations. It has been shown that some plants and animals respond to illumination negatively or positively through

instincts rather than learning. Irritation in both plants and animals has been provided to be instinctive rather than learning.

Oyekun (2000), learning is a gradual change in behaviour which ought to be frequently practiced and reinforced to prevent its extinction. It is a sort of biological adaptation as it occurs when the students adjust to cope with the conditions of educational environment and dynamic society. Achieving meaning and logically sequenced learning demands adoption of behavioural objectives because they emphasize the worth while behaviour students should demonstrate with proficiency by the end of the lesson. Hence learning must be based on familiar internalized activities while the resulting curiosity and determination can be surprising achievement in the children. Greater students conceptual understanding can be enhanced when teaching is oriented towards the state of operational readiness of the students as well as the use of local examples and concrete objects that produce first hand experiences which appeal to human senses. The varied opportunities to learn by doing, through active participation in a conducive environment shall promote good teaching and make the students happy with better performance at school.

Nuke (1998), learning is a relatively permanent change in behaviour as a result of practice or experience: "the man who ceases to learn soon ceases to live" and "the teacher who ceases to learn soon loses the opportunity to teach". These statements underline the importance of the learning process in life. We live in changing society and for us to survive and live happily, we need to adjust or adapt to our environment. This we can achieve by acquiring habits or ways of behaving. We are continually engaged in our learning activity on another throughout life. By observing the change in behaviour patterns in people we know that learning has taken place.

Definition of Instructional/Educational Media

Education cannot take place without one form of communication or the other. Communication involves the process of sending and receiving information or message. For messages to get transmitted they must pass through a channel or medium transmitter. Thus, media are channels through which messages, information, ideas and knowledge are conveyed and or disseminated. When such media are used for education or instructional purposes, they are called educational or instructional media.

Medium (or media in plural) is used in general to mean a means of communication. It refers to anything that carries information between a source and a receiver. Instructional or educational media are means of communication used to carry messages with an instructional intent.

According to Abimbola (1997) educational or instructional media are a broad – range of resources which can be used to facilitate effective and efficient communication in the teaching-learning process. Though, instructional media can be seen as generic term but in terms of functionality it is non ambiguous. For examples, educators can readily recognize such instructional materials as audio-visuals, electronic, print or non-print,

projected or non-projected aids and other forms of telecommunication gadgetry-radio, television, video tape recorder etc.

Cahnham and Ozigi (1978) describe instructional materials as "Aids that help the learners by sources or by sight" he also emphasized that these materials are not for the teachers but they are to assist the students since they promote learning rather than teaching. According to them, the best instructional materials are concrete objects itself. However, since these cannot always be taken to the classroom he suggested that teachers should make use of temporary and permanent materials as well as display.

Ogunlade (1988) refers to instructional media as "equipment or materials intended to make better teaching more complete learning, these equipment and materials provide the learners with multi-sensory impression that make it easier for him or her to remember what he has been taught such media can be regarded as device through which learning process may be encouraged and motivated under classroom situation.

Romiszowski (1971:176) viewed instructional media as "something that assist the teaching of a topic or subject matter".

Adewole (1968:98) defined instructional materials as "materials which the teacher uses to convey information, ideas, and messages to the students"

Brown et al (1969) from his own point of view said that instructional materials "(from instructional technology) goes beyond any particular medium or device" in this sense instructional technology is more than the sum of its parts. It is a systematic way of designing carrying out and evaluating the process of learning and teaching in terms of objectives based upon research in human learning and communication and employing a combination of human and non human resources to bring out more effective instruction. According to Aroloye (1985) "Instructional materials has increase students, financial learning and reading". Interest helps to improve retention of learning stimulates activity, influence attitude, which they could as well as possible be said to be good for both slow and fast learners. Teaching and use of instructional materials in our schools today is due to lack of finance to acquire them.

Oladipo (1970) refers to instructional materials as "objects or things which are used in classroom for teaching to facilitate the understanding of the concepts to help children learn with ease and understanding.

Generally, the relevance of instructional media lies in the various levels of the learning materials and equipment.

Adeyemi (1981) and Ogili (2001) contend that the best strategy for effective communication in educational instructions is guaranteeing continual use of skills by the prospective learners in the production of prototype materials

Basic Consideration in Choosing Instructional Materials.

To embarking on any instructional materials in the teaching learning process, certain basic pedagogical consideration has to be put in place. Some of these according to Maduabum (1996) include:

- The objective of the lesson
- What is to be taught
- The background knowledge of the learner
- The durability of the instructional materials
- The cost advantage of the instructional materials.

Knowledge of the students' academic background would provide the learner with insight into whether instructional materials would be appropriate to learn the task at hand or not, for this reason it would not be very appropriate to provide students with an improved typewriter in teaching computer keyboard.

The Roles of Instructional Media in Teaching and Learning

- Instructional media provide concrete experience and enables students to integrate prior experiences with new learning. Psychologists, like Jerome Bruner have proposed that learning is facilitated when instruction follows a sequence from actual experience through iconic representations (as in pictures, films e.t.c), to symbolic representation (as in words). Through instructional media, the learner can visualize concepts that would otherwise have been abstract.
- Instructional media help to support teacher-based instruction educational media can serves as aid to teaching. This has been the key reason for using educational media. Teachers use them to support their teaching. They use them to introduce the lesson, to highlight points, to generate attention, to elicit responses. They use them as advance organizers" which serve to prepare the learners mind towards receiving instruction. David Ausubel, an educational psychologist developed the concept of "advance organizers".
- Instructional media can facilitate students drill and practice. For examples, audio tapes can be used effectively for drill and practice in spelling, mathematics and language instruction. The computer is also well suited for drill and practice exercises
- Instructional media can help promote the "discovery" or "inquiry" approach to learning and teaching. Recorded video, for example, can be used to stimulate creative learning activities.
- Instructional media can help take over some of the routine tasks of the teacher thereby enabling him to have more time for other important tasks, use of media enables the teacher to play the role of a facilitator or manager or learning rather than a dispenser of information. For examples audio cassettes with task directions, practice work books, computer, e.t.c can help free the teacher from routine exercise.

- Instructional media is particularly suited to individualized instruction. It can provide learners with materials that are specially designed or chosen to suit their individual needs, interests, abilities and experiences.
- Instructional media can help learner to concentrate their attention, time and effort on a learning task.
- Instructional media has taken instrument to non-formal setting outside the school. Learning and teaching now take place in homes, in business premises, in factories, in the market, everywhere and at any time. Instructional media has broken barriers to education physical (distance), environment, demographic or economic. It is therefore no wonder that distance education has relied heavily on instructional media.

Types of Instructional Media

There are different types of instructional media: The following will be considered:

- Non- projected materials, these are materials that do not required projection for viewing. They are not electronic. These include printed materials, pictures, diagrams, chart, posters.
- Projected and Audio Media: These are media that require power from electricity or other sources such as battery. They are projected or electronic media. Examples are Opaque projector, as well as audio tape/cassettes and radio.
- Multimedia system: it is a combination of two or more media. Examples are sound –slide, sound-film strip combinations, multimedia kits.
- Non-Projected media: These are instructional materials that do not required projection for viewing. They are not electronic. These include printed materials, pictures, diagrams, charts, posters, models, etc.
- Printed media: These include text books, factors tutor guides, journals, workbooks, handbooks, reference books, readers, magazines, periodicals newspapers, letters, booklets, bulletins, handout, etc. Printed materials are easy to use as they do not require any special technology. Learners have a high degree of control over where and how they choose. They can be used to teach most subjects effectively. They use words, numbers, illustrations, graphics, photographs, diagrams and sketches which aid learning.

Printed materials can be written for classroom use, for independent study and reference purposes.

- Non-projected visuals: These are visuals that do not require projection for viewing. They are readily available and are used more extensively in the classroom. This is

particularly true of developing countries where lack of electricity, poor funding, lack of know how limits the use of projected and electronic media. These are classified under three classes: still pictures, graphics and realia

- Still Pictures: These are photograph like representations of people, places and things. They include photographs, illustrations (in books, magazines and newspapers), drawings and paintings. They are easy to use since they do not require any special technology. They help to “concretize” abstract ideas, still pictures can be used in a variety of ways.
 - i. to illustrate the lesson
 - ii. to record information
 - iii. to understand the write-up in the textbooks, newspapers and periodicals.
 - iv. To test and evaluate what has been learnt.
- Graphic material: This is the second category of non-projected visuals. It is called graphic materials or simply graphics. Graphics are non-photographic, two-dimensional materials that communicate information or ideas using some combination of drawing, words, symbols and pictures. Graphics messages are brief, well focused and visually symbolic rather than fully representational. Graphic materials are of various kinds namely drawing, charts, graphs, posters e.t.c
- Projected Electronic Media: Electronic media are instructional materials that require power from electricity or other sources such as battery. These are different types of electronic media which include;
 - (a) Overhead projectors: These are used to project transparencies. Transparencies may be composed of photographic type film, clear or made from cellophane. The projector can be used for both teaching and non-teaching situations. The user can face the audience or students in the case of classrooms or laboratories. He writes on the transparencies to project ideas. On the screen and at the same time maintains an eye contact on his audience. Overhead projector can focus course contents on classroom walls with very little room light as it does not require total darkness. This is particularly suitable for large group presentation. It enables the lesson to be developed progressively-by -step.
 - (b) Film Strip: can be described as a sequence of related still pictures imprinted on a transparent film. A strip usually has 15 – 45 or more films. The projectors for film strips are easily operated and they are inexpensive. Many topics on various subjects can be prepared and focused. The films are arranged sequentially for all topics and pictures can be focused one after another. They are well suited for independent study. The film strip viewer is useful for teaching a small class while the projector is useful for a normal classroom presentation. During a classroom

projection, the teacher presents the sequence step by step or frame by frame. He describes each frame before the next frame is advanced.

(c) Opaque projector: This is the projection of non-transparent (Opaque) projector. The opaque projector projects images from textbooks, newspapers, magazines, maps, illustrations, diagrams, photographs, specimens, objects, etc by reflecting light off the materials through a series of lenses on to the screen or white wall. Opaque projector permits group viewing and discussion of students work. it saves the teacher the time for drawing on the chalkboard or card board sheets as materials can be projected directly. It is very useful for very small groups or classroom size group that need to view the enlarged form of some printed or visual materials. It can be used in all curricular areas and at all levels.

(d) Television: is like the film except that it is electronically operated whereas the film is mechanically operated. Television and video share all the advantages of motion pictures and have an additional advantage of needing no operator.

Today the television has become not only a mass medium but also fast becoming an individual medium. It is becoming nearly as available as audio tapes and has become a rich resource for instruction and training.

There are educational television and instructional television programmes. Educational television is a broad term used to cover all television programmes aimed at education rather than entertaining the public. The target audience does not aim at passing any prescribed examination after listening to the programme. Instructional television on the other hand is any planned use of video programmes to meet specific instructional goals regardless of the source of the programmes.

- Computer

Computer which is an electronic machine that accepts data as input, processes the data and gives out information as the output, is another instructional material that aids teaching and learning process. The use of machine, computer programmed instructions have made it possible for learners to learn at their own pace.

Similarly, the learner is now at the centre of all the teaching-learning process and is reinforced immediately with immediate knowledge of result.

Broadly speaking computers have been applied in two main ways in education, as Computer Managed Instruction (CMI) and as Computer Assisted Instruction (CAI). Until Micro Computers entered schools, classroom computing resources usually were classified under three general headings

- Computer Assisted Instruction (CAI)
- Computer Managed Instruction (CMI) and others

CAI usually referred to drill-and-practice, tutorial and simulation software; CMI encompassed testing, record-keeping and reporting software. During the 1980s, other authors began using many more inclusive terms to refer to instructional uses of

computers such as Computer Based Instruction (CBI), Computer Based Learning (CBL) and Computer Assisted Learning (CAL)

Instructional Software Performs the Following Roles;

(a) Tutorials Activities: Here, the courseware teaches directly. It enables the students to learn the topic without any help or other materials from outside the courseware. It is self-contained. This kind of software will require the learner to be able to read and do independent study. Even with this courseware, the human teacher can still assist slow learners.

(b) Drill and practice activities: This software provides exercises on which students work examples, one at a time and receive feedback on their corrections. Drill and practice software can help save the teacher's time as students work on their own. The students can get immediate feedback. It can motivate students to do the practice.

(c) Simulations: These software modes real or imagined systems to show how those systems or similar ones work. Simulations give access to experiences which would otherwise be impossible. Simulation can show students what it would be like to walk on the moon or to build their own cities, create a budget for them, populate them and run them, including responding to intermittent disasters.

(d) Problem-solving courseware: They can teach directly, through explanation and /or practice the steps involved in solving problems or help learners acquire problem-solving skills. This software provides the students with the opportunities to solve problems. The problem-solving may be specific to teaching content area skills or focus on general, content -free skills.

Others Instructional Materials that Aid Teaching and Learning Process are:

- Bulletin Boards
- Magnetic Boards
- Audio Tape
- Video Tape Recorder etc.

Issues Associated with the Use of Instructional Materials in School

A number of issues are associated with the use of instructional materials in the learning -learning processes in schools and they include:

- Availability of instructional materials
- Awareness importance of instructional materials by teachers
- Funding instructional materials in schools

- Availability of trained personnel for handling instructional materials.
- Lack of in-service programmes for the teachers who use instructional materials.
- Maintenance of instructional materials.

Methodology

In this study, pre-post test, control group quasi-experimental design was used with one experimental group (instructional media treated) and one control group (without instructional media treatment)

Research Design

The study examined the effect of instructional media on the learning of computer studies in Junior Secondary School (A case study of Akure South Local Government Area).

The study took place at the school of the participants. The instructional intervention was divided into three phases; pre-testing, treatment and post-testing, treatments were carried out across five weeks and based on computer studies curriculum. Assessment methods were the same for all students who participated in the learning.

During the sessions, different experimental tasks were employed in order to evaluate the degree of achievement through the teaching and learning of computer studies using instructional media, without instructional media, effect of instructional materials on female students learning computer, differences of student taught computer in rural and urban areas, etc.

Research Instrument

Four instruments were prepared and used in this study, namely:

- Computer Studies Achievement Test (CSAT): This is a 50 multiple choice questions with four options per item. The questions covered selected concepts taught during the lesson. These include concepts of computers, types, classes, components of computer characteristics of computer, programming language (BASIC and LOGO)
- Operational Guide: This is a guide of instructions for the use of the teacher in the experimental and control group. The researcher drew the chart of types of computer on a transparent paper and projected it for the class in the experimental group.
- Instructional Media: This consists of media resources used in the treatment of the experiment group
- Questionnaire: The researcher also administered questionnaire to the student in selected secondary school students

Population of the Study

All the students in the Junior classes in Akure South Local Government Area of Ondo State constituted the population of the study.

Sample and Sampling Techniques

A total of 150 students purposively selected from five (5) secondary schools in Akure South Local Government Area participated in the study five schools were selected randomly from stratified schools that fall into the following criteria:

- Schools offering computer studies
- Schools having permanent computer teachers
- Schools having mini computer laboratories.

The JSS3 arms class was used in the study.

Validation of Instrument

The computer studies achievement test was given to expert in related field to help in establishing the face and content validity of the instruments. To establish its reliability, a test, re-test method was adopted. The instrument yielded a reliability co-efficient value of 0.75, the items analysis of the instrument was also conducted in order to determine the discrimination indices and difficulty level of the items.

Procedure for Data Collection

The procedure was in three phases: in phase one, the researcher drew the chart of computer system on transparent paper and projected it through a projector to show various components of the computer system, types and classes of computers as well as people working with computer to the class of the experimental group. The researcher then conducted training for teachers in the experimental and control groups. On how to use the operational guide of instruction, the teacher in the experimental group also made use of instructional media package prepared for the experimental group.

The first week of the experiment was used to conduct the pre-test in order to determine comparability of the group. The two groups were found to be comparable based on the mean pre-test score.

In the second phase, the students were taught computer studies using instructional media to explain some concepts in computer studies such as concept of computer, types classes, and components of computer, characteristics and some application and uses of computer to the experimental group while the control group was taught without instructional/media. This lasted for five weeks, while in the third phase, the computer studies achievement test was administered as a post-test for students in the experimental and control groups.

The questionnaires were also administered on the participants who consent was sought and returned back to the researcher.

Method of Data Analysis

In analyzing the data, the researcher adopted percentage for the analysis. The non-parametric statistics of chi-square were also used to test research hypothesis. Results of data analysis were tested at 0.05 level of significance.

Discussion of Findings

Data analysis in this study shows that facilities like computer systems, email accounts, Projectors, Public Address System (P.A.S), E-Library, printers for print out of learning materials by students and Social-Media Platforms are available for learning while ICT facilities like Internet Facilities, Computer training Centre for students on campus and Stored lecture notes on CD-ROM are not available to students for learning on campuses in Ondo State. Premised on research question, the study found out that students have regular access to email account and internet facility for search of information while students rarely have access to computer systems, Public Address System (P.A.S), E-Library facility, printers to prints learning materials, social-media platforms for learning and stored lectures notes on CD-ROMs for students supplementary learning. However, the study further revealed that computer training classes and projectors for academic activities are not accessed by students on campus.

Conclusion

Information communication technologies are influencing all aspects of life including education. They are promoting changes in working conditions, handling and exchanging of information, teaching-learning approaches and so on. One area in which the impacts of ICT is significant, is education. ICTs are making major differences in the teaching approaches and the ways students are learning. ICT-enhanced learning environment facilitates active, collaborative, creative, integrative, and evaluative learning as an advantage over the traditional method. In addition, the major promises of ICTs use in education systems of developing countries focus on training teachers in new skills and introducing innovative pedagogies into the classrooms, investing on ICT infrastructure for schools and creating networks among educational institutes, improving overall standard of education by reducing the gap in quality of education between schools in urban and rural areas, initiation of smart school with objectives to foster self-paced, self-assessed, and self-directed learning through the applications of ICTs, and developing ICT policy for education and training.

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