

THE USE OF INSTRUCTIONAL TECHNOLOGIES IN TEACHING AND LEARNING OF ACCOUNTING COURSES IN TERTIARY INSTITUTION IN IMO STATE, NIGERIA

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Abstract

The specific aims of this present study is twofold: (1) to investigate the extent of utilization of hardware technologies in the teaching and learning of accounting courses in Tertiary Institutions in Imo State, and (2) to investigate the extent of utilization of software technologies in the teaching and learning of accounting courses in Tertiary Institutions in Imo State. The study adopted a descriptive survey research design to achieve the specific aims of the study. The research participants comprised of 85 lecturers and 615 undergraduate students from the nine public tertiary institutions in Imo State. Purposive and proportionate stratified random sampling technique was used. The research instrument used for data collection was a structured questionnaire. The validation of the instrument was done by two specialists in Educational Measurement and Evaluation and Accounting education. The reliability coefficient was determined using a Cronbach's alpha with a reliability index of 0.76. Research questions were answered using mean and standard deviation. The findings of the study showed that the extent of utilization of hardware facilities in teaching and learning of accounting courses is low and not above average rating; the extent of utilization of software facilities in teaching and learning of accounting courses is low and not above average rating; the extent of utilization of internet facilities in teaching and learning of accounting courses is low and not above average rating; and the extent of utilization of peripheral ICT equipment in teaching and learning of accounting courses is low and not above average rating. The author recommended, among others, that the government and school management should endeavor to make adequate provision of instructional technologies available (both in form of hardware and software), which are necessary for effective teaching and learning of accounting courses in tertiary institutions.

Keywords: Accounting Education Courses, ICT, Information Communication Technology, Instructional Technologies, Teaching and Learning, Tertiary Institutions.

Introduction

Tertiary education also known as higher education is the education provided to individuals after secondary education. Examples of tertiary education include universities, colleges of education, polytechnics and those institutions offering correspondence courses (Federal Republic of Nigeria (FRN, 2013). Tertiary education in Nigeria has been established to achieve the following goals as stipulated in the education policy document of Nigeria:

1. To contribute to national development through high level relevant manpower training;
2. To develop and inculcate proper values for the survival of the individual and society; and
3. To develop the intellectual capability of individuals to understand and appreciate their local and

external environment.

The contributions of tertiary education to social and economic development of Nigeria cannot be overemphasized. However, in this present information and knowledge age, Nigeria and other countries are faced with changes induced by market trends, occasioned by Information and Communication Technology (ICT) which has taken over the world and have dominated completely the day to day running of business organizations, educational institutions and the society in general (FRN, 2018). Kozma (2019) predicted a shift from lecturers as initiations of instruction for the whole class to lecturers as guide who help students find their appropriate instructional path and evaluate their own learning. These predictions were made based on the increasing needs of ICT's as a tool for teaching and learning instructions in the lecture room. Based on this, Akudolu (2019) remarks that lecturers have to use technologies of the day to embrace new teaching role such as using interactive video, CD-Rom, computers, satellites, communications, chips and the likes. in the same vein, world bank (2019) and Adernson & Glen (2019) posited that ICTs consist of hardware, software applications, networks and media for collection, storage, accessing, transmission and presenting of information (voice, data, text and images) from the above descriptions of ICT facilities, the new learning technologies in teaching accounting are computers, e-mail, internet, word processing, telephones, radio, television, audio, data base, overhead projector, filmstrip, software, electronic white board and other related devices.

Developments in ICT have impacted the operations as well as the purpose of tertiary education systems, curriculum content, instructional technology and method of teaching. These new challenges and opportunities especially in ICT cannot be addressed with the use of outdated educational tools but by developing innovative curriculum studies and effectively utilizing the new learning technologies in teaching and learning. Innovative technologies should be employed in teaching and learning to enhance the professional competence of lecturers, teachers and students (Unwin, 2018). Understanding the use of these Innovative learning technologies should be widened to include the value of blended learning solutions which Unwin (2018) describes as the combination of instructional materials and technologies such as printed text materials, video, radio and face practical experience as well as the use of computers and the internet to give learners opportunities to learn effectively in ways that are appropriate to their needs. These innovative technologies as enumerated above are used for accessing, gathering, manipulating and presenting or communicating information to students. It includes hardware such as computers and other devices; software applications and connectivity such as access to internet, local networking infrastructure, video conferencing among others (Anderson & Glen, 2019).

In this knowledge and information driven age the utilization of new and innovative has become a necessity in teaching and learning due to its accruing benefits for instructional delivery. For instance, the adoption and utilization of computers, internet, satellites and other related software applications at the professional level have facilitated recording of business transactions, activities and calculations while ensuring quality, speed and accuracy. According to Bonnet (1997), ICT has the potentials to influence classroom instruction, making new things possible in new ways, offering new opportunities and making new demands on both teachers and students. It affects both instructional content and delivery methods. ICT has the capacity to enhance the administrative responsibilities enthroned on lecturers and hence improve on the effectiveness and efficiency of teaching and research tasks which are the fundamental job performance in tertiary institutions. The new learning technologies such as computers, internet and software applications like Microsoft peach tree and power point have been an indispensable ingredient for the completion of assignments, projects, and in presentation of data by teachers and students. The Organization for Economic Co-operation and Development (2018) and Gbenga (2017) has observed that ICT can work in a number of ways. For instance, ICT can be used to help in school administration; it can be used to train students in skills which they will need in further education and as an ongoing learning process throughout the rest of their lives and for their future job; for example, word processing e-mail communications among

others; it can provide access to information and communication outside the lecture room for example via the internet.

Anderson and Glen (2019) defined ICT as those technologies that are used to access, gather, manipulate and present or communicate information. These technologies include hardware such as computer and other devices; software applications and connectivity (such as, access to the internet, local networking infrastructure, and video-conferencing). Okwor (2019) defined ICT as the use of computer and telecommunication system in the collection, collation, analysis, processing, manipulation, storage, retrieval, transmission and communication of data in different forms which may include audio, visual, visual formats. Akudolu (2019) defined ICT as all kinds of electronics systems that are used in broadcasting, telecommunications and all forms of computer related communications. It involves the use of computers, online self-learning packages, interactive CDs, chips, Satellites, optical fibre technologies and telepresence systems and other related types of information and technologies. ICT can be seen as a shorthand or acronym for computers, software, networks Satellite links and related systems that allow people to access, create, analyze and exchange information and knowledge in ways that were almost imaginable (Association of African Universities, 2000). The Nigerian National Policy for Information Technology (FRN, 2018) defined ICT as computers, ancillary equipment, software and firmware (hardware) and similar procedures, services (including support services) and to related resources as any equipment or interconnected system or sub system of equipment that is used in automatic acquisition, storage, manipulating, management, movement, control, display, switching, interchange, transmission or reception of data or information. Thus, these technologies are used for accessing, processing gathering, manipulating and presenting or communicating information. In another perspective, Unwin (2018) defined ICT as new technologies employed in teaching and learning to enhance the professional development of lecturers, teachers and students. Our understanding for ICT use in professional development should be widen to include the value of blended learning solutions which Unwin described as the combination of printed text materials, video, radio and face to face practical experience as well as the use of computers and the internet to give learners opportunities to learn effectively in ways that are appropriate to their needs. According to Ajagun (2019), ICT encompasses the radio, television, videos, computers, sensors interface boxes, e-mail, satellite connections, internet and all the software and materials such are employed by the teachers for teaching and learning. The use of these technologies in classroom instruction is termed on-line instruction. The development of ICT in education cannot be over emphasized and it is one of a kind in history.

Information and Communication Technology has a number of features which is particularly suitable for tertiary education: it combines and integrates a full range of media essential for effective learning. The ICT uses sounds, vision, text and numeric data; it provides lecturers with new opportunities and in particular, distance learning and involvement in the real world (Onasanya, Shehu, Oduwaire & Shehu, 2010). The increasing advantage of the new learning technologies for national development account for why the FRN (2013) in its education policy document introduce computer education as one of the prevocational electives at the junior secondary school level of education, as a vocational elective at the senior secondary school level of education and at the tertiary institution level of education computer literacy is addressed to be a compulsory course in the curricula.

Making computer literacy as a compulsory academic program in Nigerian tertiary institutions appears not to have resulted in any meaningful change on the fundamentals necessary for teaching and learning, rather more attention is placed on administrative services such as admissions, registration and fee payments. Dogara, Ahmadu and Lawal (2019) and Gambari and Okoli (2007) linked these problems of utilization of ICT in teaching and learning to bureaucracy, lack of adequate provision of well-equipped ICT laboratories, lack of adequate provision of qualified personnel to maintain ICT materials, lack of adequate supply of connectivity to internet and lack of adequate

training programmes for the lecturers in Nigerian tertiary institutions. Another factor militating against the utilization of ICT in teaching and learning is the ICT course contents for the teachers which appear to lack adequate inputs on how to teach “with” computers but rather teach them “about” computers. This has resulted to some pre-service and in-service lecturers lack of basic computer application methodology in content delivery. Sequel to this ICT course content factor, Willis (2018) opined that general computer literacy, opening system, word processing, spread sheet, data base management and telecommunication are not sufficient to prepare pre-service teachers to use ICTs in their classroom. What is needed is professional literacy, a basic understanding of how computer and related technologies can be used in education as well as specific practical skills for the integration of technology into the curriculum at the graduate and undergraduate level and in the introductory subjects for pre-service teachers' effectiveness in teaching. This is because teachers are the hub and change agent of any educative process and major actors in curriculum implementation.

The technological and environmental demands of the 21st century, knowledge and information driven world, becomes an essential prerequisite for lecturers to utilize adaptable and modern instructional methods, materials, resources and strategies effectively in order to adapt to the change from teacher-centered education system to learner-centered education. These technological empowerments are competencies which lecturers should demonstrate in the application of the new learning technologies in education. These include: competence to master a range of educational paradigms that make use of new learning technologies; competence to make use of new learning technologies as a tool for teaching; and competence to master a range of assessment paradigms which make use of new learning technologies (Kitschner & Davis, 2019).

New learning technologies are enablers of these competencies which should support lecturers' and students' activities by connecting both to each other with a vast array of human and information resources (Kosma, 2019). In accounting, several researchers and educators in the empirical pursuit, envisaged that the future of accounting classroom will accommodate face, seating and workstation equipment arrangements; use advanced technologies to suit a combination of class and distance learning audience. the implication of these future technological projections is that tertiary education programmes will need to better prepare accounting graduates for work place culture. These technological advances demand lecturers to incorporate knowledge and discipline contents from diverse sources and utilize different media both traditional and unconventional methods in teaching accounting. There is therefore, the need for schools especially the higher institutions to help graduates particularly accounting education students to acquire face to face practical technological skills that would help them function effectively as that lecturers as the chief implementers of the curriculum be not only aware of these new learning technologies in teaching accounting education courses but also be able to employ them in their instructional deliveries and/or activities.

Research Questions

The following research question were raised to guide the study.

Research Question 1: What is the extent of utilization of hardware technologies in the teaching and learning of accounting courses?

Research Question 2: What is the extent of utilization of software technologies in the teaching and learning of accounting courses?

Methods

Research Design

A quantitative survey research procedure by means of poll was utilized for achieving the purpose of the study. This approach was adopted to offer the authors opportunity to have personal interaction with the research participants.

Participants and Sampling Procedure

The study participants were selected from the Federal Universities in South-East, Nigeria, using a simple random sampling technique so that lecturers and students can be adequately represented in the study. A representative sample of 700 participants were used in the investigation, which comprised 85 lecturers and 615 undergraduate students (Table 1) who were haphazardly chosen from the Department of Vocational and Technical Education over the three Federal Universities in South-East, Nigeria.

Table1: Distribution of Participants Across Tertiary Institutions in South-South, Nigeria

S/N	Name of Institution	Lecturers	Students
1.	Imo State University	12`	431
2.	Federal University of Technology, Owerri	12	211
3.	AlvanIkoku Federal University of Education	18	673
4.	Imo State College of Education Ihitte-Uboma	6	14
5.	Imo State Polytechnic, Umuagwo	14	367
6.	Federal Polytechnic, Nekede	18	756
7.	Federal College of Land Resources Technology	-	-
8	Imo State College of Nursing and Health Sciences	-	-
9.	Kingsly Ozurumba Mbadiwe University, Ogboko	6	39
	Total	86	2518

Source: Personnel Units of the Respective Institutions, 2024.

Research Instrument

The study used the questionnaire as an appropriate instrument for the collection of quantitative data (Bryman, 2007). Two research instruments were used for data collection. The questionnaires were developed by the author, primarily for lecturers. A five point Likert scale of 18 items ranging from Very High Extent (VHE) = 5 Points, High Extent (HE) = 4 points, Moderate Extent (ME) = 3 Points, Low Extent (LE) = 2 Points, and very Low Extent (VLE) = 1 Point, for the collection of data. Eight items measured the extent of utilizing hardware facilities in teaching and learning accounting of courses. Ten items measured the extent of utilizing software facilities in teaching and learning of accounting courses.

Validity and Reliability of the Instrument

Two lecturers, one from Social Science Education (Business Education Unit) and the other from Measurement and Evaluation, ensured the content validity of the Instrument. The reliability test was conducted to determine the internal consistency of the instrument and yielded a coefficient value of 0.76 through a Cronbach's alpha.

Data Collection and Analysis Procedure

The survey questionnaire was personally administered to the respondents by the author with the help of two trained research assistants. Mean and standard deviation were used to determine the levels of usage of instructional technologies (both hardware and software in the teaching and learning of accounting education courses in tertiary institutions.

Result

Research Question 1: What is the extent of utilization of hardware technologies in the teaching and learning of accounting courses?

Table 2: Mean and Standard Deviation on the Extent of Utilization of Hardware Technologies in the Teaching and Learning of Accounting Courses.

S/N	Items	N	$\Sigma X.$	\bar{X}	SD	Remarks
1	Computer	345	763	2.21	.300	LE
2	Television	345	795	2.30	.350	LE
3	Film Strip	345	882	2.56	.486	LE
4	Video	345	855	2.48	.410	LE
5	Overhead Projector	345	849	2.46	.395	LE
6	Radio	345	864	2.50	.431	LE
7	Tape Recorder	345	822	2.38	.393	LE
8	Telephone	345	802	2.32	.336	LE

Table 2 shows the mean scores and standard deviations on the extent of utilization of hardware facilities in teaching and learning of accounting courses. Laying emphasis on the criterion decision mean, the result points out that all the items were considered to be of low extent. The values of standard deviations are seen to be close to the mean, indicating that the scores in the distribution are not homogeneous. All in all, the means reveals that the extent of utilization of hardware facilities in teaching and learning of accounting courses is low.

Research Question 2: What is the extent of utilization of software technologies in the teaching and learning of accounting courses by lecturers?

Table 3: Mean and Standard Deviation on the Extent of Utilization of Software Technologies in the Teaching and Learning of Accounting Courses by Lecturers

SN	Items	N	$\Sigma X.$	\bar{X}	S	Remarks
1.	Power Point	345	836	2.42	1.379	LE
2.	Peachtree Accounting	345	851	2.47	1.404	LE
3.	CD-Rom	345	863	2.50	1.431	LE
4.	Free Accounting	345	860	2.49	1.400	LE
5.	Keepmore Accounting	345	999	2.90	1.487	ME
6.	Quick Books	345	864	2.50	1.423	LE
7.	Adminsoft Accounting	345	850	2.46	1.381	LE
8.	Gnu Cash Accounting	345	863	2.50	1.412	LE
9.	Onestep Accounting	345	848	2.46	1.378	LE
10.	Others (specify) e.g. Excel	345	847	2.46	1.401	LE

Table 3 shows mean scores and standard deviations used in answering research question one in order to ascertain the extent of utilization of software facilities in teaching and learning of accounting courses. Laying emphasis on the criterion decision mean, the result points out that except for item number 13 which was used to a moderate extent, all other items were considered to be on low extent. The values of standard deviations are seen to be close to the mean, indicating that the scores in the distribution are not homogeneous. The means revealed that the extent of utilization of software facilities in teaching and learning of accounting courses is low.

Discussion

Data from research question 1 reveals that extent of utilization of new technologies in teaching and learning of accounting courses is low and not above average rating. It indicates that in the area of using hardware facilitates in teaching and learning of accounting courses, the lecturers are not doing well as its level of utilization is below average. The findings are so because where hardware facilitates are not adequately provided for the teaching of accounting courses, there is no way lecturer can use what is not adequately available. This finding is in agreement with the findings of Chiaha, Eze and Ezeudu (2013) who found that the universities are not yet ready for E-learning service delivery since there are inadequate provision and utilization of hardware facilitates. Also, Amuche and Iyekekpolor (2014) study revealed that the competency level of FUC teachers is low and FUC teachers cannot utilize ICT in teaching their subjects. Similarly, the data from research question 2 reveals that the extent of utilization of software facilitates in teaching and learning of accounting courses is low and not above average rating. The finding collaborates with the study of Adebo, Adekunmi and Daramola (2013) who found that majority of lecturers are not versed in computer and other technology usage.

Conclusion

The researcher investigated the extent of utilization of new technologies in the teaching and learning of accounting courses in tertiary institutions in Imo State. The study is adopted a survey research design which involved the descriptive method with two research questions. The findings of the study were that: the extent of utilization of hardware facilities in teaching accounting courses by lecturers is low and not significantly above average rating; the extent of utilization of software facilities in teaching and learning of accounting courses is low and not above average; the extent of utilization of internet facilities in teaching and learning of accounting courses is low and not above average.

Recommendations

It is recommended that the government and school management should endeavor to make adequate provision of instructional technologies available (both in form of hardware and software), which are necessary for effective teaching and learning of accounting courses in tertiary institutions.

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