

STRATEGIES FOR IMPROVING THE UTILIZATION OF E-LEARNING IN THE TEACHING AND LEARNING OF ACCOUNTING IN TERTIARY INSTITUTIONS IN ANAMBRA STATE

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Abstract

The electronic learning (e-learning) as a mode of teaching and learning has come to stay in the history of tertiary institutions in Nigeria, but due to several challenges confronting its technological operations in the country, e-learning is yet to be fully implemented in the teaching and learning processes in Nigeria, including the teaching and learning of accounting. This study therefore ascertained the strategies that could be used to improve the utilization of e-learning in the teaching and learning of accounting. Census survey research design was used for the study. A total of 116 final year accounting students made up of 62 males and 54 females were used. A questionnaire which was validated by three experts with a reliability coefficient of 0.76 was the instrument for data collection. Data collected were analysed using mean and standard deviation for the research questions and z-test for the null hypotheses. Findings revealed that; provision of adequate IT support, provision of well-equipped ICT centre in every tertiary institution, provision of IT standard for implementation, among others were strategies for improving the utilization of e-learning. Also, there was no significant difference in the mean ratings of the respondents on the strategies that could be used to enhance the utilization of e-learning in the teaching and learning of accounting as a result of gender. Recommendations were also proffered.

Keywords: Strategies, Utilization, e-Learning, Accounting, Tertiary Institution.

Introduction

Information and Communications Technology (ICT) plays an indispensable role in today's contemporary society. The introduction of ICT in education sector brought a lot of changes in the pedagogical and delivery system of education. Ratheeswari [35] noted that the advent of information and communications technology has given rise to the formulation of new educational objectives which require innovation and modification in the content, pedagogical method and evaluation strategies. The modification comes with the introduction and utilization of information and communications technology (ICT) gadgets in the teaching and learning processes. Such ICT gadgets include: computers, videoconferencing, electronic mail, audio-visual aid, cyber space, internet and teleconferencing [36]. Others include: hypertext, video text, communication satellite, radio and interactive cable television. The introduction of these ICT gadgets in education sector enhanced the implementation of e-learning in the teaching and learning processes.

Electronic learning or e-learning can be described as a learning program that makes use of an information network- such as the internet, an intranet (LAN) or extranet (WAN) whether wholly or in part, for course delivery, interaction and/or facilitation [35] also described e-learning as the use of information and communication technologies to enable access to online learning/teaching resource. It can also be referred to as the use of electronic media and information communication technologies (ICTs) in education. It includes all forms of educational technology in the teaching and learning processes. Hence, it is synonymous with technology enhanced learning (TEL). The e-learning could have several benefits when integrated into the teaching and learning processes such as; It could provide access to information with the latest technologies to support professionalism [11]. It could promote individualized learning [19]. It could also help to engage students' interest and motivation in the learning process. E-learning ensures that students are completely involved as learning takes place together with texts, videos, sounds, collaborative sharing and interactive graphics [10]. It could also improve the skills required in the world of work

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which could help to minimize the dissatisfaction of employers of labour. It could also improve students' knowledge in research. Nevertheless, the use of e-learning in education has its own demerits which among others include that; it could bring about lack of standards for the development and operation of an effective and independent program [1]; it could also bring about lack of concentration on the part of the students as they could be attracted to some other applications rather than the subject contents.

Utilization of e-learning in the teaching and learning process therefore, refers to the use of technological media and gadgets both internet, intranet or extranet in part or whole for instructional delivery to achieve an objective. Since educational institutions in Nigeria are gradually embracing the e-learning method of instruction, it is therefore important that effective strategies should be developed by the stakeholders in education so as to optimally benefit from the ever changing advances of technology in education sector.

Accounting is a course of study usually offered in tertiary institutions. It is also one of the subjects at the basic and post-basic levels of education. Accounting is an important course that acquaints the recipients with the relevant competencies needed for effective recording and management of financial resources for proper planning and decision making purposes [31]. Enhancing utilization of e-learning in the teaching and learning of accounting in tertiary institutions is important as it allows access to many accounting students who do not enjoy the luxury of studying inside the walls of a university. It provides flexibility in terms of time and space to students [8]. It presents huge materials seamlessly to accounting students which could help them to be equipped with specific and general knowledge of accounting needed in the production of accountants. Accountants are vital to the economy as they create integrated report and audit, provide and test standard of sustainability of accounting [46]. They also create business analysis, decision support, due diligence, risk management analysis, anticorruption activities and ensure corporate transparency [26]. It is therefore important that accounting students (future accountants) should be exposed to specific and general knowledge of accounting in tertiary institutions with the aid of e-learning to face the volatile working environment independent of fixed time and place.

Tertiary institutions are accredited education institutions which offer higher and advance form of education. It includes among others, the universities, colleges of education, polytechnics and monotechnics. They are expected to be instrumental in fostering national growth and reducing poverty. According to World Bank, tertiary education is seen as the capstone of the traditional education pyramid.

As the apex of education structure, it is a critical pillar of human development which provides a life-long learning framework for training high-level skilled human capital resources in all spheres of life [3]. The authors maintained that improved tertiary education is necessary for sustainable progress in education sector. Tertiary institutions are expected to create intellectual capacity on which knowledge production and utilization should depend. They are also expected to play the key roles in promoting lifelong learning practices that are necessary for updating knowledge and skills. They could do these functions by carrying out their traditional mode of operations with the aid of technological facilities to enhance their mode of operation.

The term strategy means a well-planned, deliberate and overall course of action to achieve specific objectives. A strategy is a long term plan of action designed to achieve a particular goal, most often winning [45]. It is the process of developing unique set of activities to achieve a goal. Some of the tertiary institutions in Nigeria have adopted e-learning blended with the traditional face-to-face method of teaching and learning. This adoption was necessary in order to adapt to the technological challenges brought about by the advent of technology in education sector. However, the success of this adaptation could be determined by the level of utilization of technological facilities in education sector. As the utilization of e-learning is not without problems in developing countries like Nigeria. It therefore becomes important that strategies which could enhance the utilization of e-learning be ascertained. Hence the study

Research Questions

The following research questions guided the study;

1. What are the challenges confronting the utilization of e-learning in the teaching and learning of accounting in tertiary institutions?
2. What are the strategies that could be used to enhance the utilization of e-learning in the teaching and learning of accounting in tertiary institutions?

Null Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

1. There is no significant difference in the mean ratings of male and female final year accounting students on the challenges confronting the utilization of e-learning in the teaching and learning of accounting in tertiary institutions.
2. There is no significant difference in the mean ratings of male and female final year accounting students on the strategies that could be used to enhance the utilization of e-learning in the teaching and learning of accounting in tertiary institutions.

Significance of the Study

Findings of the study could be beneficial to the administrators of tertiary institutions and the government, in that they would provide insight on the strategies that could be used to enhance the utilization of e-learning in tertiary institutions in Nigeria. The findings could also serve as a reference material for researchers who would conduct a related study.

Review of Literature

Several scholars have described the concept of e-learning. According to [11], e-learning is described as education delivered on the web. This conception shows that e-learning is used to describe all on-line interactions between the instructor and the learners. Sandybayev [38] also described e-learning as a wide set of technological applications and processes, such as Web-based learning, computer-based learning, virtual classrooms and digital collaboration. According to the author, e-learning includes the delivery of contents via internet, intranet/extranet, audio and videotape, satellite broadcast and interactive TV. Furthermore, [24] maintained that e-learning has evolved from a fully-on-line course to the use of technology to deliver courses independent of fixed time and place. In another instance, e-learning is described as a computer-based education delivers over the intranet and/or internet [2]. In the same vein, [37] defined e-learning as the delivery of education programme by electronic means which involves the use of a computer or electronic devices such as mobile phone to provide learning materials. Taurus et al. [44] described e-learning as the use of multimedia technologies and the internet to improve the quality of learning by facilitating access to facilities and services as well as remote exchanges and collaboration. In the context of this study, e-learning is defined as the technological mediated learning approach use to support and deliver the educational programmes to learners. Its applications include online learning, computer learning, virtual classrooms and digital collaboration. Others includes; Moodle, Learning Management System, CDs, Mobile phones, Students Academic Records Information System (SARIS) and On Demand Examination System, ODEX [6].

According to [13], there are different types of E-Learning which include: Text Driven (the content is simple and includes text, graphics, audio and test questions); Interactive (this is very similar to a text driven but there is a greater use of visuals in graphics, charts and diagrams); Simulation (this is highly interactive and relies heavily on graphics, video, audio, gasification and 3D components). Also, [4] discussed other types of e-learning to include: Computer Managed Learning, CML (where computers are used to manage and assess learning processes); Computer Assisted Instruction, CAI (The use of computers together with traditional

teaching); Synchronous Online Learning (where groups of students participate in a learning activity together, at the same time, from any place in the world); Asynchronous Online Learning (where groups of students study independently at different times and locations, without real-time communication taking place); Fixed E-Learning (where the content used during the learning process does not change from its original state and all the participating students receive the same information); Adaptive E-Learning (where the learning materials are adapted and redesigned for each individual learner); Linear E-Learning (where the learning materials are passed from the teacher to students through the television); Interactive Online Learning (This enables two-way communication channel between the parties involved); Individual Online Learning (where students study the learning materials on their own (individually), and they are expected to meet their learning goals on their own) and lastly, Collaborative Online Learning (where students work together and practice teamwork in order to achieve their common learning objectives). The various types of e-learning could be used singly or in combination with any other to achieve the set goals.

Some of the goals of e-learning according to [42] include: to provide an effective alternative path to wider opportunities in education and especially in higher education; to provide education facilities to those individuals who look upon education as a life-long activity; to enhance the quality of teaching and learning; to meet the learning needs of students and to improve user-accessibility and time flexibility in the teaching and learning process. Widens the participation, delivers flexible opportunities and supports work-based learning [25]. For e-learning goals to be achieved in education sector, e-learning utilization has to be enhanced through effective strategies which could be obtained from research studies. There are several studies on problems and prospect of e-learning in tertiary institutions [2]; [23] but ascertaining strategies for enhancing its utilisation in the teaching and learning of accounting has not yet been given adequate attention.

The e-learning and its utilization in tertiary education in Nigeria

The most common type of e-learning adopted and in use by higher education institutions in Nigeria is the lecture notes on CD ROM which can be played at any time the students want [16]. According to the authors, Nigerian academics have shown interest in the adoption of e-learning facilities but the extent to which lecturers utilize the e-learning in Nigerian tertiary institutions is still low and this constitutes a huge challenge. The adoption of e-learning in education sector, especially in higher educational institutions has several benefits which some studies have provided. For instance, [28]; [29] gave the

advantage of e-learning as its ability to focus on the needs of individual learners. Selim [39] stated that the adoption of e-learning increases learning effectiveness and information retention. Gautam et al. [18] noted that the asynchronous learning permits each student to study at his own pace and speed. This increases satisfaction and decreases stress as opined by some scholars such as: [5]; [12]; [7].

E-learning in higher institutions could also; enhance the efficacy of knowledge through ease of access to a huge amount of information, offer opportunities for learning to a large number of learners without need for many buildings (cost effective), enhance individualized instruction, among others. Although there are numerous benefits of e-learning, it also has its own demerits which include; lack of physical interaction, proctor concerns, plagiarism issues, practical content study issues, high cost of data, lack of student's interaction and lack of motivation [10]; [34].

Factors to be considered for effective integration of e-Learning

In education sector in Nigeria, there are several factors that need to be considered for effective integration of e-learning. They include but not limited to type of technology, mode of delivery, administrative issues and competency framework.

Type of technology: The basic ICT infrastructural facilities are needed for educational institutions to be IT-driven. Every lecture classroom is expected to acquire the necessary physical facilities in information communication technology such as computer system, telecommunication system and multimedia system [41], projector, whiteboards, satellite, broadband links and DVD and [29], computer hardware which includes micro-processes, storage devices, input devices [9]. However, in some higher education institutions, such facilities are not adequate and this affects the effective integration of e-learning in the teaching and learning processes.

Mode of delivery: For effective delivery of e-learning instruction, there is need for technical advice and support to be readily available for users. The higher institution IT infrastructural facilities should also be available, adequate and capable of providing the necessary services at any time. As [33] noted that instructors require different kinds of support which include pedagogical support, technical support and the support from the management for effective delivery of instruction with technology. This is important as the development and designing of e-learning courses have several challenges than teaching in traditional classroom environment.

Administrative Issues: Since the management should provide conditions that are needed, such as ICT policy, incentives and resources, their commitment and interest in modern technologies application at every level is a critical factor for successful implementation of e-learning [20]. They should also provide support which may include; provision of incentives to instructors such as monetary rewards, awarding of extra credits for instructors and reducing workload of instructors [27]. Furthermore, the management could adopt freeware and open source software for teaching and learning activities as this could make the users enthusiastic about e-learning instruction. According to [22] adequate access to e-learning technologies by the users is important for effective integration of technology in education sector.

Competency Framework: Both teachers and learners need exposure to e-learning usage and training. Facilitators and students should personally strive to acquaint themselves with the ICT skills necessary for online instruction. This they could do through personal practice using technology, watching free online tutorials on how to use certain technologies and attending a (free) class on ICT skills [31]. The adequacy of their competency to work effectively with digital technologies is prerequisite for successful integration of e-learning in education sector. As [14] opined that there should be improvement on instructors' knowledge, skills and perceptions about technology use in education for successful integration of technology in education. In Nigeria some teachers/facilitators are yet to embrace e-learning instruction. Many teachers still do not use e-learning instruction probably due to inadequate possession of ICT skills. For effective integration of e-learning instruction, teachers should be able to use e-learning tools for teaching, examination and evaluation. Hence, adoption of e-learning could be a challenging task for both instructors and learners alike.

Method

The study used a survey research design. A survey research design obtains information that describes the existing phenomenon by asking the respondents about their perception, attitudes and values [30]. This study is carried out in tertiary institutions in Anambra State. Tertiary institutions were selected because majority of the students are tech-savvy. A total of 116 final year accounting students comprising of 62 males and 54 females were used for the study. Census survey was carried out. The instrument used for data collection was the questionnaire, titled 'Strategies for improving the utilization of e-learning in the teaching and learning of accounting in tertiary institutions'. The instrument was developed by the researchers after extensive review of literature.

Drafts of the questionnaire were given along with the purpose of the study and research questions to three experts from Nnamdi Azikiwe University, Awka. They were requested to assess the questionnaire with regards to the adequacy of the items and their relatedness to the research. Their inputs led to certain modifications such as removal and addition of some items in the final production of the instrument. To test for the reliability of the instrument, fifteen copies of the instrument were administered to accounting students in tertiary institutions in Delta State who were not part of the population. Cronbach Alpha's method was used to determine the reliability of the instrument and the reliability coefficient of 0.76 was obtained. Each of the items was assigned five responses of strongly agree (5), Agree (4), undecided (3), disagree (2) and strongly disagree (1). Data for the study were collected by the researchers with the help of three research assistants. A total of one hundred and sixteen copies of the questionnaire were distributed

and ninety eight copies (53 from males and 45 from females) were duly filled, collected and used for the study. Data collected were analysed using mean and standard deviation. Mean scores were used to answer the research questions while the standard deviation scores were used to ascertain the closeness or otherwise of the respondents' responses. Decision rules for this study were established that any mean of above 3.00 (positive), at 3.00 (undecided), below 3.00 (negative). The null hypothesis was rejected when the z-calculated was greater than the z-critical but when otherwise, the null hypothesis was not rejected.

Findings

Research Question One: What are the challenges confronting the utilization of e-learning in the teaching and learning of accounting in tertiary institutions?

Table 1: Mean and Standard Deviation Scores of Respondents on The Challenges Confronting Effective Utilization of e-Learning

S/N	Strategies	Mean	SD	Remark
1.	Inadequate computer systems	3.73	0.68	A
2.	Inadequate IT support	3.82	0.67	A
3.	Inadequate possession of ICT knowledge and skill by users	3.72	0.65	A
4.	Poor network infrastructure	3.84	0.67	A
5.	Inadequate time for ICT training by users	3.71	0.70	A
6.	High cost of data	3.79	0.66	A
7.	Unstable power supply	3.80	0.68	A
8.	Inadequate funds for provision of ICT gadgets	3.77	0.64	A
9.	Weak content development	3.70	0.70	A
10.	No clear IT policy for implementation	3.68	0.68	A

Data in Table 1 reveal that the respondents agreed that all the item with mean ratings ranging from 3.68-3.84 were challenges confronting effective utilization of e-learning in tertiary institutions. The standard deviation scores of 0.64-0.70 show that the respondents' opinions were related.

Research Question Two: What are the strategies that could be used to enhance the utilization of e-learning in the teaching and learning of accounting in tertiary institutions?

Table 2: Mean and Standard Deviation Scores of Respondents on The Strategies for Improving The Utilization of e-Learning

S/N	Strategies	Mean	SD	Remark
1.	Availability of adequate computer systems	3.73	0.70	A
2.	Provision of stable internet facilities	3.64	0.69	A
3.	Availability of affordable data	3.76	0.63	A
4.	Provision of steady power supply	3.80	0.70	A
5.	Provision of well-equipped ICT centres in every tertiary institution	3.83	0.68	A
6.	Allotment of sufficient time for ICT training	3.67	0.65	A
7.	Provision of IT standard for implementation	3.62	0.62	A
8.	Provision of adequate funds for ICT gadgets	3.70	0.72	A
9.	Provision of adequate IT support	3.74	0.64	A
10.	Adequate possession of ICT knowledge and skills by users	3.76	0.67	A

Data in Table 2 reveal that the respondents agreed that all the item with mean ratings ranging from 3.64-3.83 were strategies for improving the utilization of e-learning in tertiary institutions. The standard deviation scores of 0.62-0.72 show that the respondents' opinions were related.

Null Hypothesis 1: There is no significant difference in the mean ratings of male and female final year accounting students on the challenges confronting the utilization of e-learning in the teaching and learning of accounting in tertiary institutions.

Table 3: The z-Test Result of The Respondents' Ratings of Challenges Confronting Effective Utilization of e-Learning in Tertiary Institutions

Groups	X	SD	N	Df	Std Error	z-cal	z-crit	Decision
Males	3.89	0.76	53	96	0.03	0.84	1.960	Not rejected
Females	3.64	0.70	45					

Data in Table 3 show that the calculated z-value of 0.84 at 96 df is less than the z-critical value of 1.960 at 0.05 level of significance. This shows that there is no significant difference in the mean ratings of male and female final year accounting students on the challenges confronting the utilization of e-learning in the teaching and learning of accounting in tertiary institutions.

Null Hypothesis 2: There is no significant difference in the mean ratings of male and female final year accounting students on the strategies that could be used to enhance the utilization of e-learning in the teaching and learning of accounting in tertiary institutions.

Table 4: The z-Test Result of The Respondents' Ratings of Strategies for Improving The Utilization of e-Learning

Groups	X	SD	N	Df	Std Error	z-cal	z-crit	Decision
Males	3.86	0.72	53	96	0.03	0.80	1.960	Not rejected
Females	3.80	0.69	45					

Data in Table 4 show that the calculated z-value of 0.80 at 96 df is less than the z-critical value of 1.960 at 0.05 level of significance. This shows that there is no significant difference in the mean rating of male and female final year accounting students on the strategies for enhancing the utilization of e-learning in tertiary institutions.

final year accounting students on the challenges confronting effective utilization of e-learning in tertiary institutions in Anambra State.

Discussion of Findings

Findings from the research question one indicated that final year accounting students agreed that; Inadequate computer systems, Inadequate IT support, Inadequate possession of ICT knowledge and skill by users, Poor network infrastructure, Inadequate time for ICT training by users, High cost of data, Unstable power supply, Inadequate funds for provision of ICT gadgets, Weak content development and No clear IT policy for implementation were challenges confronting effective utilization of e-learning in tertiary institutions in Anambra State. This is in agreement with [47] who revealed that challenges confronting the utilization of e-learning include poor network infrastructure, lack of ICT knowledge, weakness of content development and language competency. In the same vein, [40] found that utilization of e-learning is hindered by ICT infrastructure, local content and copyright issues. Moreso, [32] noted that e-learning opportunities might be hindered by pedagogical challenges. Also, finding from null hypothesis one revealed that there is no significant difference in the mean ratings of male and female

Findings from the research question two indicated that final year accounting students agreed that; Availability of adequate computer systems, Provision of stable internet facilities, Availability of affordable data, Provision of steady power supply, Provision of well-equipped ICT centre in every tertiary institution, Allotment of sufficient time for ICT training, Provision of IT standard for implementation, Provision of adequate funds for ICT gadgets, Provision of adequate IT support and Adequate possession of ICT knowledge and skills by users were strategies for improving the utilization of e-learning in tertiary institutions in Anambra State. This is in agreement with the study of [43] which found that technological and internet infrastructure advancement, stable internet network procurement, continuous evaluation and free internet quota could greatly improve the utilization of e-learning in schools. In the same vein [15] found that prompt technical support, workshop and training and mechanism to evaluate the authenticity of students' course projects, quizzes and assignments could enhance the utilization of e-learning. Also, finding from null hypothesis two revealed that there is no significant difference in the mean ratings of male and female final year accounting students on the strategies for improving

the utilization of e-learning in tertiary institutions in Anambra State.

Conclusion

It is evident from the foregoing discussion that e-learning is being gradually introduced in the teaching and learning processes in tertiary institutions but it is still faced with several challenges. It is therefore imperative that those challenges be eradicated or minimized, using the strategies ascertained in the present study and other studies for its maximal utilization in the teaching and learning processes.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Administrators of tertiary institutions should pragmatically seek for more funds for the provision of ICT gadgets from non-governmental organizations and philanthropists.
2. Accreditation bodies like Nigeria Universities Commission (NUC) should provide and enforce clear guidelines for e-learning delivery in order to have an acceptable standard.
3. Individual effort should be made by the accounting teachers and their students to acquire ICT competencies necessary for effective utilization of e-learning in the teaching and learning of accounting.
4. The school authorities should provide adequate time for the training of accounting students and their teachers on ICT competencies required for effective utilization of e-learning instruction.

Conflict of Interest

There is no conflict of interest with respect to the research, authorship, and/or publication of this article.

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