# ASSESSMENT OF INSTRUCTIONAL MEDIA AVAILABILITY AND UTILIZATION IN E-LEARNING FOR DISTANCE LEARNING PROGRAMMES IN GOVERNMENT-OWNED UNIVERSITIES IN SOUTH-EAST NIGERIA

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## Article Info

## Abstract

This study assessed instructional media availability and utilization in e-learning for distance learning programmes in government-owned universities in south-east Nigeria. The objectives were to determine instructional media available for implementing e-learning in distance learning programmes of government-owned universities and to find out the extent of utilization of e-learning in distance learning programmes of government-owned universities in South East, Nigeria. This study utilized a descriptive survey research design. The study population consisted of 12,928 respondents from ten government-owned universities in South East Nigeria; 12,752 students and 176 lecturers. The sample size for this study consisted of 1,451 respondents, comprising 1,275 students and 176 lecturers. Data were analyzed using mean ratings and standard deviations to provide a clear summary of responses. The t-test was employed to test the hypotheses, given the unbiased selection of the sample. The results revealed that the learning materials available for implementation of e-learning delivery mode in distance learning programmes of the government-owned universities were mostly online libraries and online examination facilities. The other materials were not adequately available and that the extent to which e-learning is being utilized in distance learning programmes of government-owned universities in South East, Nigeria, was low (that is, not adequate). It was concluded that, for these universities to fully harness the potential of e-learning, there is an urgent need to improve the provision of instructional media and to address barriers to their effective utilization. It was recommended among other things that Federal and state governments should invest in improving and expanding the technological infrastructure, including high-speed internet access, to ensure reliable connectivity for both students and lecturers in ODL programme of South East Universities.

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**Introduction**

**Background of the study**

The advancement of technology has revolutionized the education sector, leading to the widespread adoption of e-learning platforms, especially in distance learning programs. Distance learning, once seen as a supplementary educational method, has now become a key mode of instruction in many higher institutions, including government-owned universities in South-East Nigeria. This mode of learning has been praised for its flexibility, ability to reach a broad audience, and capacity to cater to diverse learning needs (UNESCO, 2020). In the context of Nigeria, distance learning has gained traction due to its role in providing access to education for students in remote and underserved areas, reducing geographical and financial barriers to higher education (Nwoke, 2019).

E-learning is a broad word that incorporates many sorts of educational technology aiming at electronically or digitally aiding learning and teaching. As described by Aminu and Shehu (2019), e-learning is the usage of information and communication technology to provide access to online learning and teaching materials. It is primarily a web-based programme that offers learners with timely access to knowledge or information, independent of time limits or geographical closeness (Escobar Fandiño and Silva Velandia, 2020). E-learning, in essence, refers to the use of information and communication technologies (ICTs) to improve and support learning, teaching, and research (Eteng and Ntui, 2019). It incorporates numerous technology instruments such as PDAs, MP3 players, web-based learning, hypermedia, multimedia discussion forums, blogs, and simulations (Eze, 2017).

A critical component in the success of e-learning in distance learning programs is the availability and effective utilization of instructional media. Instructional media, which include digital resources such as videos, audio lectures, online quizzes, and interactive simulations, are integral to creating an engaging and effective learning environment (Anderson, 2018). These media tools not only enhance the learning experience but also ensure that educational content is delivered in a manner that accommodates diverse learning styles and preferences. However, the availability of these resources and their effective use remain challenges in many institutions, particularly in Nigeria.

In South-East Nigeria, government-owned universities are making strides in integrating technology into their distance learning programs. Despite these efforts, there are concerns about the adequacy of instructional media, the infrastructure needed to support their effective use, and the preparedness of both students and instructors in utilizing these tools effectively (Okafor, 2021). Studies suggest that while some universities have made significant investments in e-learning platforms, others still struggle with inadequate technical support, lack of resources, and insufficient training for both students and staff (Eze, 2020).

**Statement of the Problem**

The primary problem that motivated this study is the limited evaluation of e-learning usage as an instructional tool in distance learning programs within government-owned universities in Southeast Nigeria. Despite the increasing relevance of electronic learning in global education, it appears that the integration and effectiveness of e-learning in these institutions have not been fully assessed. This gap is particularly evident in the lack of research on factors such as the availability of e-learning resources, and the extent of its utilization by students and lecturers. Moreover, potential barriers, such as the logistical challenges faced by distance learning students who have to travel long distances to collect physical lecture materials or attend in-person classes, highlight the need to explore whether e-learning could alleviate these issues. The study seeks to understand if e-learning could be a more efficient and accessible method of instructional delivery in these programmes. Thus, the key problem driving this

study is: How effectively is e-learning being utilized in distance learning programs in government-owned universities in Southeast Nigeria, and what factors are hindering its full implementation?

**Purpose of the Study**

The main purpose of this study is to assess instructional media availability and utilization in e-learning for distance learning programmes in government-owned universities in south-east Nigeria. Specifically, the study seeks to:

1.      Determine instructional media available for implementing e-learning in distance learning programmes of government-owned universities in South East, Nigeria.

2.      Find out the extent of utilization of e-learning in distance learning programmes of government-owned universities in South East, Nigeria.

**Research Questions**

The following research questions guided the study:

1. What learning materials are available for the implementation of e-learning delivery mode in distance learning programmes of government-owned universities in South East, Nigeria?

2. To what extent is e-learning being utilized in distance learning programmes of government-owned universities in South East, Nigeria?

**Statement of Hypotheses**

The following hypotheses tested at 0.05 level of significance guided the study:

1. There is no significant difference in the mean ratings of lecturers and students on the learning materials available for implementation of e-learning in distance learning programmes of government-owned universities in South East, Nigeria.

2. There is no significant difference in the mean ratings of lecturers and students on extent of utilization of e-learning in distance learning programmes of government-owned universities in South East, Nigeria.

**REVIEW OF RELATED LITERATURE**

**Conceptual Framework**

**Distance Learning Programme.**

The primary components of distance learning, also known as distance education, are the physical separation of instructors and students during teaching and the use of different technologies to support communication between students and teachers. According to Forson and Vuopala (2019), distance learning programs are thought to have a significant role in socioeconomic growth. Subsequently, it is anticipated that policies implemented to fortify or revamp the remote learning initiative will be meticulously crafted to guarantee enhanced involvement from this segment of the education industry in developing nations (Ojo, Rohmi, and Kayode, 2011). The conventional definition of distance learning is any instructional process wherein the instructor or coordinator and the learners are geographically separated. However, there might be communication between the instructor and the student or learner, or none at all. As to UNESCO (2015), the phrase "open and distance learning" refers to methods that prioritize expanding the reach of education and training; releasing students from location and time limitations while providing both individual and group learners with adaptable learning possibilities.

According to Ezeonwurie (2016), distance education is a kind of education where a large amount of the instruction is given by a teacher who is physically or chronologically distance from the students. Because they are becoming more and more popular as a way for more students to have greater access to higher education, online and distance learning have gained significant attention in the field of education in recent years (Tapfumaneyi, 2013). In Nigeria, the growing use of online and remote learning is seen as a significant and important breakthrough in education (Osipita, 2016). It is noteworthy to note that the Nigeria National Policy on Education includes

information and communication technology (ICT) among the policy guidelines creating online and remote learning (Federal Republic of Nigeria, 2013).

The idea of distance learning denotes a teaching strategy intended to reach students in a variety of settings, including their homes, workplaces, and retail stores. The only goal is to provide students access to learning materials so they may earn their credentials without having to physically attend courses, or to offer possibilities for lifelong learning, regardless of the time or place at which they want to study. According to Vander (2017), a distance learning program physically divides a lecturer from their students. The author went on to say that instructors using this approach may give instruction online via the use of an e-auditorium, e-boardroom, e-classroom, internet facilities, video phone system, and teleconference technologies like Zoom, webinar, etc. Furthermore, the study center model of remote e-learning, the correspondence model, and the educational broadcasting model are examples of the submodels of distance education that Nwosu (2012) and Nwogu (2016) highlighted. The models were designed to be replacements for one another over time. At the moment, Nigeria's online and remote learning programs are delivered mostly via print materials and in-person interactions in dual or single modes (Ayo, Odukoya, and Azeta, 2014). According to Osipita (2016), since remote learners are required to take face-to-face exams regardless of where they live, the distance education system looks comparable to conventional education. The system's integration of e-learning ought to progress to e-examination.

Online learning is essential because effective learning need more than simply student-to-student interaction. Talebian, Mohammadi, and Rezvan (2014) have identified six different types of engagement in distance learning education: (1) teacher-content; (2) content-content; (3) student-teacher; (4) student-student; (5) teacher-teacher; and (6) student-content. Theories that advocate for the use of new technology in the classroom are based on the notion that students are active agents that search for and create knowledge in relevant situations. Sarkar (2012) also said that a lot of collaboration tools may be used for communication and collaborative learning, especially in e-learning.

**E-Learning**

Technology has allowed the world to become a global village. Technology developments in the twenty-first century have made e-learning an essential instrument for research, instruction, and learning in postsecondary educational establishments (Ojaega & Igbiendion, 2012). As a result, there are frequent and profound changes that people undergo that seem to have enhanced almost every element of their lives. E-learning, as defined by Kassa and Balunywa (2013), is the use of all electronic media, networks, and information and communication technology (ICT) to enhance instruction and transfer knowledge and skills. ICT integration into the teaching and learning process has made possible a whole new kind of learning known as electronic learning, or e-learning. In support of this, Ja'ashan (2020) said that the rapid growth of technology, the trend of globalization in higher education, and the dismantling of barriers among students have opened up new perspectives and methods to educational practice. One of these contemporary technologies is e-learning.

The use of various electronic media and information and communication technology (ICT) in education is known as e-learning. "E-learning" was described by Congruz-Bacescu (2013) as the use of internet technology to provide a broad range of solutions that enhance performance and knowledge. Any act or virtual process for acquiring information, knowledge, skills, or competence is sometimes referred to as e-learning. E-learning, broadly speaking, refers to any kind of learning environment that heavily utilizes communication and informatics resources. The phrase "e-learning" refers to learning via the use of communication and information technology; the letter "e" in the name stands for electronic. Amedu (2014) defines e-learning as the process of sharing knowledge and information through the use of a variety of information processing and electronic communications

technologies, such as computers, the internet, e-mail, computer software, satellites, mobile communication devices, and other related electronic devices. It basically involves enhancing education and student learning via the use of computer technology and information. Furthermore, according to Akorful and Abaidoo (2015), the term "e-learning" refers to digital learning that is mediated by technology and uses a variety of hardware and software resources, including operating systems, cloud technologies, applications (apps), writing, editing, and Microsoft Office, as well as hardware like computers, tablets, printers, digital cameras, digital videos, scanners, overhead projectors, and OHP screens, to improve teacher-student interactions.

"E-learning," a wide term that encompasses any educational technology that facilitates instruction and learning online, is used. E-learning, in its most basic form, is a web-based program that allows students to access knowledge or information at any time, from anywhere, on any schedule (Escobar & Silva, 2020). E-learning is the process of gaining knowledge and skills via the use of electronic technology, such as computer-based learning programs and the Internet, over local and wide area networks, according to Kotoua, lkan, and Kilic (2015). Depending on whether a particular aspect, component, or delivery method is given emphasis, other terms for e-learning include online education, virtual education, computer-based training, internet-based training, web-based training, technology-enhanced learning, computer-based training, online education, computer-based training, and digital educational collaboration. Graduate and undergraduate students alike may gain a great deal from e-learning resources. These platforms facilitate the process of learning for both lecturers and students by allowing students to post tasks, read short texts, and remark on themselves and others. Students who share techniques and information are more able to work together and provide a foundation for higher order thinking.

## Delivery Approaches used in E-Learning

When using e-learning for teaching and learning, there are two delivery approaches that may be used. Both synchronous and asynchronous processes exist (Nworgu, 2017). There is no live communication between the instructor and the students when learning is done asynchronously. It makes use of social media sites like Facebook, Twitter, and Whatsapp in addition to online discussion groups, chat rooms, online bulletin boards, e-mail, and Yahoo Groups. Learning reacts to data and messages in a way that is most comfortable for them. Technology platforms like text messaging, audio conferences, and video conferences that allow for simultaneous online participation by both parties may also facilitate synchronous learning. Osuji (2016) asserted that communication devices like phones, computers, and video-conferencing capabilities like webcams, Skype, Imo (a new online videoconferencing platform), or other web-based video, audio, or texting technology platforms are tools which can be used in e-learning. Real-time technology enhanced communication can be between students and teachers or students and students using technology as a medium. A true platform for distance learning programs is e-learning. A virtual classroom, web-based, computer-based, and content delivery via e-networks, audio or video cassettes, satellite TV, video conferencing, CD-ROMs, iPods, emails, and wireless and mobile technologies are just a few examples of the many ways that e-learning resources may be used (Eke, 2018). In a variety of situations, the use of e-learning in the classroom has proven beneficial. Numerous advantages of integrating e-learning technology into university education have been shown by prior study (Raspopovic et al., 2017). One way to think about e-learning is as a way to focus on the requirements of individual students. For example, Huang and Chiu (2015) found that, in contrast to the expectations of educational institutions or instructors, focusing on the needs of individual learners may effectively give information in the digital age. E-learning also allows objectives to be accomplished with the least amount of work and in the shortest amount of time. A paradigm shift from the traditional/classical way of instruction to a modern technology-augmented mode of teaching and learning resulted from the revolution in education brought about by the advent of technology.

According to Abifarin (2015), e-learning is a useful strategy that has strategic value and should be integrated with current academic instruction.

For example, the Nigerian Federal Government saw the potential of ICT to transform education in the 1990s and quickly included it into the curricula of the country's primary, intermediate, and tertiary institutions. E-learning systems may be used online or offline thanks to electronic devices and software. According to Samsuri, Nadzir, and Rom (2014), e-learning and computer-enhanced learning are two frequent uses of personal computers for training purposes. According to Kattoua, Al-Lozi, and Alrowwad (2016), alternative communication technologies provide instruction via online lectures, learning support systems, and tutorials. According to a study by Nwaukwa, Onyemechara, and Ndubuisi (2019), respondents use e-learning technologies less often due to a number of limitations. The issue of learning materials' accessibility for students to complete e-learning at various stages of their education is a significant aspect of these limitations. Thus, it is necessary to address the issue of instructional material availability for online courses.

**Availability of Learning Materials for e-learning Programme**

Undoubtedly, the emergence of e-learning platforms in higher education has enabled a substantial change in teaching and learning methodologies. The degree to which technology is integrated into the educational process, how easily accessible it is, and the level of support provided to teachers and students in using it are all factors that determine an organization's capacity to effectively adopt e-learning. However, according to Ugwuanyi (2013), availability refers to the resources or services that are offered in order to carry out certain duties. The condition of offering an adequate standard requirement in terms of teaching resources to enhance the efficacy of instructional activity in a specific subject is referred to as availability (Onyejemezie and Ugwuanyi, 2013). Online learning platforms provide a range of course resources, such as text papers, PDFs, videos, interactive modules, and quizzes. The materials are available will depend on how the program is set up and organized and which learning tools are needed. While resources in asynchronous courses are often available at any time, those in synchronous courses, for instance, could only be accessible during in-person sessions (Ugwuanyi, 2013). Because of copyright and licensing concerns, course materials may not always be easily accessible. If you want accurate and up-to-date information on when the course materials will be accessible, it is imperative that you get in contact with the organization or university immediately.

According to Wokocha, Babalola, and Agbagbue's (2016) study, e-learning resources are available for undergraduate course teaching and learning in some distance education programs, such as those offered by the National Open University (NOUN). However, Everest and Laura's (2011) study on online learning in Nigerian universities found that e-learning resources were insufficient and that students' access to them was minimal. Adelabu, Adu, and Adjogri's (2014) research also shown that higher education institutions' e-learning infrastructures are insufficient. The particular programme and its resources will determine the availability of learning materials for an e-learning programme. However, learning resources for e-learning may be found in a number of places, according to Adelabu, Adu, and Adjogri (2014). Among these sources are:

1. Learning management systems (LMS) and online platforms: A lot of e-learning initiatives make use of LMSs and online platforms, which provide a single place for maintaining and accessing course content. Numerous materials are often available on these platforms, including interactive modules, quizzes, assignments, multimedia content, digital textbooks, and lecture notes.

2. Open educational resources, or OERs, are materials that are freely available for use in research, teaching, and learning. Usually, these materials are available for use, modification, and sharing under open licenses. A multitude

of educational resources covering several areas and grade levels may be found in open education repositories such as MERLOT, Khan Academy, and OER Commons.

3. Digital archives and online libraries: A large number of academic institutions and libraries have digitized their holdings and made them accessible online. These online libraries include a huge selection of remote-accessible books, journals, research papers, and other reference resources.

4. Websites that provide education and online courses: A plethora of websites that offer education and online courses offers a variety of learning resources, such as interactive lessons, video lectures, exercises, and evaluations. There are vast libraries of courses available on websites like Coursera, Udemy, and Khan Academy, covering a wide range of disciplines.

5. Multimedia resources: Videos, audio files, animations, and simulations are just a few examples of the multimedia resources that are often included in e-learning programs. Platforms such as YouTube, TED-Ed, and subject-specific instructional websites are good places to find these materials.

6. Online communities and forums: These online spaces dedicated to education and certain topics may be excellent resources for educational resources. These sites often include debates, resource sharing, and suggestions from both teachers and students.

7. Textbook publishers and online booksellers: A lot of textbook publishers already provide digital copies of their books on the internet. E-books and digital materials covering a range of topics are also available from online retailers such as Barnes & Noble and Amazon.

8. Resources provided by teachers: Instructors often produce their own lesson plans, worksheets, and presentations. These materials are provided via online forums, instructional blogs, and instructor websites.

It is crucial to remember that different learning resources may be more or less accessible depending on the curriculum, academic level, and geographic area. Furthermore, it is necessary to evaluate the materials' quality and relevancy to guarantee their congruence with the program's goals and criteria. The goal of e-learning programs is to provide students complete access to course materials via online platforms so they may study at their own speed and take part in interactive activities from any location with an internet connection. Despite the fact that learning materials are readily available, a significant area of concern is the degree to which these online resources are used in distance learning programs.

**E-Learning Use in Distance Education Programmes**

As a method of delivering education, e-learning has many advantages, such as affordability, flexibility, accessibility, and interaction. Owing to its many advantages, e-learning is being used as a delivery method for teaching more and more. Agboeze, Ugwoke, and Onu (2012) conducted a study on the use of e-learning technology resources in instructional delivery in universities located in the South-South and South-East geopolitical zones of Nigeria. The study discovered that e-learning technology resources were not widely used in teaching because of various constraints. These limitations include, among other things, a lack of e-learning infrastructure and facilities at institutions, as well as a paucity of trained personnel with e-learning application skills. The use of e-learning in conjunction with information and multimedia technologies, according to Abdelaziz, Riad, and Senousy (2014), modifies the conventional learning environment and style. Al-adwan and Smedley (2012) state that instructors' ICT and pedagogical abilities, in addition to the availability of e-learning tools, are critical to the successful integration of e-learning into the teaching and learning process. E-learning is essential to distance learning programs because it gives students flexible and easily available learning possibilities. The following are some examples of how e-learning is used in remote learning programs, according to Abdelaziz, Raid, and Senousy (2014):

1. Online Course Delivery: Videos, presentations, interactive multimedia, and online modules are just a few of the ways that course materials and content may be delivered thanks to e-learning platforms. With the help of these materials, students may study whenever and wherever they want, at their own speed.

2. Virtual Classrooms: Features like video conferencing, chat rooms, and discussion forums are often seen in e-learning systems. These resources foster community building in the online learning environment by enabling in-the-moment communication and cooperation between teachers and students.

3. Multimedia Learning Resources: To improve the learning process, e-learning uses a variety of multimedia components, including audio, video, animations, and simulations. These interactive resources support a variety of learning styles by simplifying and engrossing users in difficult subjects.

4. Self-Paced Learning: Students may go through the course content at their own speed using e-learning. They provide individualized learning experiences depending on each learner's strengths and shortcomings by having the ability to study and repeat knowledge as required. Students with other obligations or working professionals will especially benefit from this flexibility.

5. Evaluation and Comments: Online evaluation tools for tests, quizzes, and assignments are offered by e-learning systems. These systems enable students to track their progress in real time and save teachers time by automatically grading objective questions and providing prompt feedback.

6. Learning Management Systems (LMS): Online course administration and organization are centrally located on LMS systems. They provide capabilities for communication, grade monitoring, student enrollment, and content management. LMS systems facilitate effective course management by streamlining administrative duties.

7. Access to Resources: Research materials, e-books, journals, articles, and other educational resources are all easily accessible via e-learning platforms. By providing digital access to these materials, students may increase their learning possibilities while lessening the need for physical libraries.

8. Mobile Learning: Learning resources are available on smartphones and tablets thanks to the mobile apps that are often included in e-learning systems. This further boost convenience and flexibility by enabling students to study while on the road.

9. Collaboration and Discussion: Through online discussion boards, group projects, and virtual cooperation, e-learning platforms let students collaborate with one another. Even in a distance learning setting, these elements promote engagement, information sharing, and peer learning.

Distance learning programs may transcend temporal and spatial constraints with the help of e-learning, offering students a dynamic and inclusive educational experience. It encourages independent study, teamwork, and the use of technology to provide high-quality education outside of typical classroom settings. There are several benefits to using e-learning as a delivery method for training, such as accessibility, engagement, and customisation. It is an effective instrument for encouraging lifelong learning and addressing the changing demands of students in the current digital era. Using the i-learn video and audio-conferencing platform to make learning interactive is a key factor that makes using e-learning in distance education easier.

**Theoretical Framework**

This study is anchored on the **Technology Acceptance Theory by Davis (1989).** This theory provides the foundation for understanding the role of technology in enhancing students' learning experience, fostering interaction, and improving achievement.

**Davis Technology Acceptance Theory (1989)**

Davis proposed Technology Acceptance Theory (TAT) in 1989. According to the thought, when consumers are introduced with a new technology, such as e-learning, a variety of variables impact their choice on how and when

to utilize it. Notably, perceived usefulness (PU) is the degree to which a person believes that using a specific system, such as e-learning, will improve his or her job performance; and perceived ease-of-use (PEU) is the degree to which a person believes that using a specific system, such as e-learning, will be effortless. TAT claims that perceived ease of use and perceived utility of technology, such as e-learning, predict user attitude toward utilizing the technology, following behavioral intentions, and actual utilization. TAT is an intention-based model used to explain and/or forecast user acceptance of computer technology, such as e-learning.at this research, e-learning integration refers to a system that uses computer technology to offer distance learning programs at government-owned universities. The extent to which lecturers think that adopting e-learning would enhance their job performance, as well as how easily they perceive e-learning use, are critical to the overall use of e-learning as an instructional delivery medium in distance learning programs.

TAT is relevant in this research because it aids in the development of a tangible grasp of the possible advantages that a learner may accumulate throughout the instructional delivery process. TAT is intended to quantify the uptake of new technologies based on students' attitudes.

**Empirical Review**

The availability and use of e-learning resources for the administration of business courses at Nigerian institutions situated in Kwara State was studied by Oluwalola and Awodiji (2019). The study was conducted based on two hypotheses and three research questions. For this study, a descriptive survey research approach was used. 282 academics who teach business and management courses in Kwara State universities made up the population. Using random and stratified sampling approaches, this research included 100 management and business teachers from Kwara State institutions. Data were gathered using a questionnaire that had a Cronbach Alpha reliability of 0.80. The study topics were addressed using descriptive statistics mean and standard deviation, and one-way ANOVA was used to test two hypotheses at the 0. 05 level of significance. The results showed that, in the chosen universities in Kwara state, e-learning resources were moderately accessible (mean 96.64) and sometimes employed (mean 98.16) for business and management course teaching and learning activities. Furthermore, $F(2, 82, 84) = 1.57, .213@ p > .05$. indicates that there is no significant difference within the group. Therefore, the study's findings showed that, although the e-learning resources were intended to help students perform better academically and close the gap between theory and practice, they were not fully utilized. Nonetheless, the resources were reasonably available in the universities that were sampled.

The availability of e-learning resources for teaching and studying undergraduate business education at Rivers State Universities was studied by Wokocha et al. (2017). Two hypotheses and two research questions served as the study's compass. The study used the survey research's descriptive design. All 2,916 students enrolled in business education made up the population. 410 undergraduate Business Education students were purposefully chosen from two universities Rivers State University, Port Harcourt, and Ignatius Ajuru University of Education out of this total population. A standardized questionnaire called the "Availability of e-Learning Facilities in Teaching and Learning Questionnaire," or AVEFTLQ, was the tool used to collect data for this research. The research instruments have an overall reliability of .78. Two specialists in Business Education and one in Measurement and Evaluation from Rivers State University's Faculty of Technical and Science Education further validated the instrument. Using the mean for the research questions and the t-test for the hypothesis at the.05 level of significance, all 410 copies of the questionnaire that were recovered were examined. The outcome demonstrated the availability of e-learning resources for undergraduate business education instruction. Additionally, it identified a number of barriers to the use of e-learning resources in undergraduate business education instruction.

Meladi and Olawumi (2019) investigated how teaching and learning in South African schools are impacted by the incorporation of information and communication technology (ICT). The study's main goal was to determine how much integration affects the caliber of instruction and learning in the classroom. It also looked at the advantages of using ICT to support personal development and improve performance in reading, writing, and critical thinking. The study was directed by four research questions and four null hypotheses that were assessed at significance levels of 0.05. The descriptive survey design was employed for the study. The open-ended nature of the research questions made them semi-structured. In this respect, over a two-session focus group, the researcher conducted interviews with nine (9) students and seven (7) instructors. In the first session, there were just instructors, and in the final, there were only students in grade 12. The relationships between the topics were found, even though the themes of the sessions were noted individually. In order to access scenarios that would have been almost difficult to discover in an interview or a questionnaire, it also conducted classroom observation. The findings showed that there is still more work to be done by the government to start the process of introducing ICT into the classroom or equipping teachers with ICT skills in order to replace conventional teaching methods. Nonetheless, the conclusion focused on how integrating ICT into classroom teaching and learning techniques benefits both instructors and students. At the level of research design, the study that is being reviewed is connected to the current investigation.

Ejinwa (2018) assessed how the National Open University of Nigeria's study centers in South East Nigeria used e-learning as a method of instruction delivery. Five research questions served as the study's compass, and five null hypotheses were examined at the 0.05 level of significance. For this study, a descriptive survey research approach was used. 11,090 people participated in the survey as responders. There were 11050 students and 40 facilitators in all. The Taro Yamane statistical procedure was used to get the sample size of 387 for this study. Data were gathered using a 45-item survey that the researcher had properly created. The study issues were addressed using the mean and standard deviation, and the hypotheses were tested using the t-test statistical analysis. The study's conclusions showed that e-learning is heavily used in NOUN teaching and learning, and that there were negative financial ramifications for both facilitators and students when e-learning was employed in this way. Additionally, a lot of course materials are accessible for use in teaching and learning, but not a lot of teaching and learning occurs on the i-learn online video conferencing platform.

**Research Method**

This study utilized a descriptive survey research design. The study was conducted in the South-East Zone of Nigeria. The study population consisted of 12,928 respondents from ten government-owned universities in South East Nigeria; 12,752 students and 176 lecturers. They are five federal and five state universities respectively (Source: NUC-ODL, 2022/2023 Academic Session). The sample size for this study consisted of 1,451 respondents, comprising 1,275 students and 176 lecturers. Due to the manageable size of the lecturer population, the entire group was included in the study. For the student population, a proportionate random sampling technique was employed to ensure that the sample accurately reflected the composition of the various subgroups within the student body. Data were collected using a researcher-structured questionnaire titled "Utilization of E-learning as an Instructional Delivery Mode Questionnaire (UELIDMQ)." The questionnaire was administered by the researcher with the assistance of four research assistants, who were trained in questionnaire administration and respondent interaction. Data were analyzed using mean ratings and standard deviations to provide a clear summary of responses. The t-test was employed to test the hypotheses, given the unbiased selection of the sample. Responses to each research question were weighted using a four-point grading system, with mean ratings of 2.50 or above indicating agreement or great extent, and ratings below 2.50 indicating disagreement or less extent. The

null hypothesis was rejected if the computed t-value was equal to or higher than the critical t-value at the chosen confidence level; otherwise, it was not rejected.

**Data Presentation and Results**

Analyses of the data and results obtained in the study are presented in this section. The data which were obtained by administering the instrument used in the study were summarized and analyzed in line with the research questions and hypotheses. The analyses were, therefore, based on the two research questions and two hypotheses of the study.

**Table 1: Mean responses and standard deviation on the learning materials available for implementation of e-learning delivery mode in distance learning programmes of government-owned universities in South East, Nigeria (n = 1443)**

| SN | Items | Lecturers | | Students | | Overall | | Dec. |
|---|---|---|---|---|---|---|---|---|
| | **Learning materials available for e-learning mode in ODL** | $\bar{x}$ | SD | $\bar{x}$ | SD | $\bar{x}$ | SD | |
| 1. | Enough computers are available for use in the university ODL programme. | 2.16 | 1.06 | 2.13 | 0.95 | 2.13 | 0.97 | D |
| 2. | Internet connectivity is readily available for interactive presentations in ODL of your university. | 2.07 | 0.86 | 2.02 | 0.82 | 2.03 | 0.82 | D |
| 3. | Online libraries are available for lecturers' and students' use in ODL of your university. | 2.87 | 0.81 | 2.81 | 1.18 | 2.82 | 1.14 | A |
| 4. | Webinars for streaming are available in the university ODL programme. | 2.20 | 1.01 | 2.00 | 0.86 | 2.02 | 0.88 | D |
| 5. | Virtual stimulation facilities are available for use in ODL of your university. | 2.06 | 0.87 | 2.03 | 0.85 | 2.04 | 0.85 | D |
| 6. | Virtual laboratories are available for use in ODL of your university. | 2.13 | 0.87 | 2.04 | 0.83 | 2.05 | 0.84 | D |
| 7. | On-line examination facilities are regularly available in ODL of your university. | 2.88 | 1.17 | 2.89 | 1.18 | 2.89 | 1.18 | A |
| 8. | Multimedia content in recorded CDs is often available for lecturers and students' access. | 2.42 | 1.12 | 2.39 | 1.13 | 2.39 | 1.13 | D |
| | **Grand $\bar{x}$ and SD** | 2.35 | 0.97 | 2.29 | 0.98 | 2.30 | 0.98 | D |

Based on the analysis of the data presented in Table 1, the availability of learning materials for the implementation of e-learning delivery modes in distance learning programs at government-owned universities in South East Nigeria can be identified. Among the items assessed, two key learning materials were deemed available. Firstly, respondents generally agreed that online libraries are accessible for both lecturers and students, with an overall mean response of 2.82 (standard deviation 1.14). This indicates that online libraries play a significant role in supporting e-learning within these institutions. Secondly, online examination facilities were also reported as regularly available, receiving an overall mean response of 2.89 (standard deviation 1.18). This suggests that these facilities are effectively integrated into the distance learning programs. Conversely, the analysis revealed a lack of adequate availability for several other learning materials. The mean responses for items such as computers, with an overall mean of 2.13; internet connectivity at 2.03; webinars for streaming at 2.02; virtual stimulation

facilities at 2.04; and virtual laboratories at 2.05 all fell below the critical cut-off point of 2.50, indicating that respondents disagreed on their availability. Additionally, multimedia content in recorded CDs, which received an overall mean of 2.39, was also considered insufficient. In summary, while online libraries and online examination facilities were recognized as available resources, the overall consensus among respondents highlighted significant gaps in essential learning materials necessary for effective e-learning delivery in distance learning programs.

**Research Question 2:** To what extent is e-learning being utilized in distance learning programmes of government-owned universities in South East, Nigeria?

**Table 2: Mean responses and standard deviation on the extent to which e-learning is being utilized in distance learning programmes of government-owned universities in South East, Nigeria (n = 1443)**

| SN | Items | Lecturers | | Students | | Overall | | Dec. |
|---|---|---|---|---|---|---|---|---|
| | The extent e-learning are being utilized in ODL | $\bar{x}$ | SD | $\bar{x}$ | SD | $\bar{x}$ | SD | |
| 9. | All academic activities are carried out using e-learning. | 2.09 | 0.85 | 2.03 | 0.82 | 2.04 | 0.82 | LE |
| 10. | Lecturers and students access the internet in ODL of your university. | 2.98 | 1.11 | 2.93 | 1.20 | 2.94 | 1.19 | GE |
| 11. | Interactive presentations carried out in ODL of your university. | 3.09 | 1.11 | 2.91 | 1.15 | 2.93 | 1.14 | GE |
| 12. | Discussion forum/video conferencing done in ODL of your university. | 2.05 | 0.86 | 2.04 | 0.85 | 2.04 | 0.85 | LE |
| 13. | Computer based examinations carried out in ODL of your university. | 2.38 | 1.05 | 2.32 | 1.07 | 2.33 | 1.06 | LE |
| 14. | Virtual laboratories used for teaching and learning in ODL of your university. | 1.95 | 0.83 | 1.92 | 0.85 | 1.92 | 0.85 | LE |
| 15. | Assignments issued and assessed online in ODL of your university. | 2.70 | 1.14 | 2.67 | 1.15 | 2.67 | 1.15 | GE |
| 16. | Virtual stimulations done in ODL of your university. | 2.10 | 0.87 | 1.99 | 0.82 | 2.00 | 0.83 | LE |
| | **Grand $\bar{x}$ and SD** | 2.42 | 0.98 | 2.35 | 0.99 | 2.36 | 0.99 | LE |

The analysis results presented in Table 2 reveal the mean responses and standard deviations concerning the extent of e-learning utilization in distance learning programs at government-owned universities in South East Nigeria. The findings indicate that the mean responses for items 10 ($\bar{x}$ = 2.94, SD = 1.19), 11 ($\bar{x}$ = 2.93, SD = 1.14), and 15 ($\bar{x}$ = 2.67, SD = 1.15) exceed the threshold of 2.50, signifying a great extent (GE) of e-learning usage. However, the mean scores for the remaining items are below 2.50, indicating a low extent (LE) of utilization. The overall grand mean responses were low for both lecturers ($\bar{x}$ = 2.42, SD = 0.98) and students ($\bar{x}$ = 2.35, SD = 0.99). The combined overall mean response ($\bar{x}$ = 2.36, SD = 0.99) is also below the 2.50 cut-off point. These results suggest that the overall extent of e-learning utilization in distance learning programs at these universities is low.

**Hypothesis 1:** There is no significant difference in the mean ratings of lecturers and students on the learning materials available for implementation of e-learning in distance learning programmes of government-owned universities in South East, Nigeria.

**Table 3: T-test of Mean Ratings of Lecturers and Students on The Learning Materials Available for Implementation Of E-Learning in Distance Learning Programmes of Government-owned Universities in South East, Nigeria**

| Respondents | N | Mean | Std. Deviation | t-cal | Df | Sig. | Dec. |
|---|---|---|---|---|---|---|---|
| Lecturers | 171 | 2.35 | 0.48 | 1.56 | 1441 | 0.12 | NS |
| Students | 1272 | 2.29 | 0.36 | | | | |

Table 3 shows the t-value for the difference in mean ratings between lecturers and students regarding the learning materials available for implementing e-learning in distance learning programs at government-owned universities in South East Nigeria. The t-value is 1.56 at a 0.05 level of significance and 1441 degree of freedom. Since the significance value (Sig. = 0.12) is greater than the 0.05 level of significance, the null hypothesis is accepted as stated. Therefore, there is no significant difference in the mean ratings of lecturers and students on the learning materials available for the implementation of e-learning in these distance learning programs.

**Hypothesis 2:** There is no significant difference in the mean ratings of lecturers and students on extent of utilization of e-learning in distance learning programmes of government-owned universities in South East, Nigeria.

**Table 4: T-test of Mean Ratings of Lecturers and Students on Extent of Utilization Of E-Learning in Distance Learning Programmes of Government-owned Universities in South East, Nigeria**

| Respondents | N | Mean | Std. Deviation | t-cal | Df | Sig. | Dec. |
|---|---|---|---|---|---|---|---|
| Lecturers | 171 | 2.42 | 0.48 | 1.76 | 1441 | 0.79 | NS |
| Students | 1272 | 2.35 | 0.36 | | | | |

Table 4 presents the t-value for the difference in mean ratings between lecturers and students regarding the extent of e-learning utilization in distance learning programs at government-owned universities in South East Nigeria. The t-value is 1.76 at a 0.05 level of significance with 1441 degree of freedom. Since the significance value (Sig. = 0.79) is greater than the 0.05 level of significance, the null hypothesis is accepted. Thus, there is no significant difference between the mean ratings of lecturers and students on the extent of e-learning utilization in these distance learning programmes.

**Summary of Findings**

The results of data analysis revealed that:

1. The learning materials available for implementation of e-learning delivery mode in distance learning programmes of the government-owned universities were mostly online libraries and online examination facilities. The other materials were not adequately available. There is no significant difference in the mean ratings of lecturers and students on the learning materials available for implementation of e-learning in distance learning programmes of these universities.

2. The extent to which e-learning is being utilized in distance learning programmes of government-owned universities in South East, Nigeria, was low (that is, not adequate). There is no significant difference between the mean ratings of lecturers and students on extent of utilization of e-learning in distance learning programmes of universities in South East.

**Conclusion**

The study highlights critical gaps in the availability and utilization of instructional media for e-learning in distance learning programmes at government-owned universities in South-East Nigeria. These deficiencies hinder the

effectiveness of e-learning as a delivery mode, limiting its ability to support quality education and accessibility. For these universities to fully harness the potential of e-learning, there is an urgent need to improve the provision of instructional media and to address barriers to their effective utilization. Such efforts will enhance the overall quality of distance learning and contribute to the broader educational goals of inclusivity and innovation in the digital age.

## Recommendations

From the findings of the study, the following recommendations are made:

1. Federal and state governments should invest in improving and expanding the technological infrastructure, including high-speed internet access, to ensure reliable connectivity for both students and lecturers in ODL programme of South East Universities.

2. Universities should conduct regular training programmes for ODL lecturers to enhance their Information and Communication Technology (ICT) skills. This includes training on how to effectively use e-learning platforms, create digital content, and engage students online.

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