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.....RESEARCH ARTICLE

Evaluation of the Effectiveness of Online Learning Platforms in Selected Tertiary Institutions in Anambra State

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Abstract

This study evaluated the effectiveness of online learning platforms in tertiary institutions in Anambra State, with a particular focus on how well these platforms support teaching and learning as well as the challenges affecting their implementation. Two research objectives guided the study which are; to examine the effectiveness of online learning platforms in tertiary institutions in Anambra State and to identify the challenges that influences the successful implementation of online learning platform in tertiary institutions. The study employed a descriptive survey research design and data extracted were thematically analyzed in line with the study objectives. A population of 89,178 undergraduate students across selected tertiary institutions in Anambra State and using simple random sampling, 300 students were selected. Data were collected through a validated questionnaire designed to assess students' experiences with online learning platforms. Findings showed that although online learning enhances flexibility and access to instructional materials, its effectiveness is limited by poor internet connectivity, inadequate devices, low digital literacy, and insufficient technical and institutional support. The study recommends improving ICT infrastructure, providing learning devices, offering digital literacy training, strengthening technical support, and adopting more interactive online teaching strategies. These findings provide valuable insights for policymakers, institutional administrators, and educators committed to enhancing the quality and effectiveness of online learning in Anambra State tertiary institutions.

Keywords	*Online Learning; Tertiary Institutions; Anambra State; ICT Infrastructure*
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Introduction

Technological advancements have ushered a pulsating paradigm shift in all dimensions of the daily activities of humans. Undergraduate students learning in tertiary institutions all over the world have undergone tremendous transformation, especially since the advent of information and communication technology (Oparaugo, et al., 2025). In this regard, ICT has promoted learning and made it more meaningful, where undergraduate students can stay even in their homes or classrooms and even receive lectures without seeing the lecturer. However, the aspect of ICT that brought about this revolution in undergraduate students' learning is called on line learning or E-learning (Oparaugo, et al., 2025).

Online learning has been established to play a paramount role in education delivery, especially in tertiary institutions (Ekemezie, 2014). On-line learning is as electronic information communication technologies (ICTs) used in teaching-learning process in tertiary institutions. This has been enhanced by advancements in technology and, in particular, the outbreak of COVID-19 (Muthuprasad et al., 2021). The term 'on-line learning' according to Abrami, et al (2019) refers to the use of computer technology in education, whether face- to face in the classrooms, in blended and hybrid courses or in mediated distance education contexts. In other words, on-line learning can be seen as the use of electronic information communication technologies (ICTs) in formal learning contexts (Greenall and Loizedes, 2018). E-learning is a process of getting an education by using different online platforms, such as the Internet (Rotar, 2024).It allows students to engage with their lecturers and fellows, grasp the content of study materials, and attend classes through digital means(Ekemezie, 2014). This way of learning and teaching is favored for its flexibility, which enables learners to proceed with the course at their own pace and place. It may take many forms, including videoconferencing/teleconferencing, video sharing of recorded sessions, chat/ discussion, and virtual learning/role-play (Ekemezie, 2014).

According to Nwankwo (2020), the development of on-line learning in Nigeria could be traced back to the development of telecommunication which began in 1996 when e-cable connections was established by the colonial masters between Lagos and the colonial office in London to transmit information and receive feedback. Therefore, for the fact that the history described on-line learning as a system that goes with transmission information and receiving of feedback, the present researchers in the context of this study contextualized on-line learning as the use of electronic media such as the internet or computer to facilitate learning (Oparaugo, et al., 2025). Thus, On-line learning facilities are available from many sources. Examples of on-line learning facilities include: desktop computers, laptop computers, scanners, electronic overhead projectors, internet, phones and alternative energy source (Wilson, 2022).

Tertiary education has embraced technology to the extent that it is used in supporting or even replacing face-to-face teaching and learning, thus making education flexible to support those in need of the service (Ocra et al., 2025; Christoph et al., 2024). Tertiary education, also known as higher education, is the level of education provided to learners after completing their secondary education. It covers all forms of learning available under university education, colleges, and other institutions offering higher learning (McCowan, 2023). This implies that tertiary education is pluralistic and may be characterised as embracing different forms of academic, professional, and vocational education courses aimed at delivering higher knowledge, analytical capacity, and skills training (Ekemezie, 2014). Apart from making individuals fit for professional jobs and preparing for careers in research or general development, it plays a critical role in enhancing society and economic growth (Schlegel et al., 2022). Another key benefit of online learning in tertiary institutions is the flexibility it offers learners in being taught or learning from a particular course. Online platforms allow students from different geographical regions to complete their desired educational resources without having to be present in a given course physically (Johnson et al, 2022).

Rotar (2024) notes that online learning has opened learning opportunities to non-traditional college consumers who have committed themselves to the world of work and family. This flexibility allows learners to engage in various activities beyond college work, thereby extending the opportunity for tertiary and quality education to many people. Qualitative education delivery means education delivery relevant to the student's needs. It comes with every prospect of serving a useful purpose in an individual's and or a group's life or enhancing their competence in the working world (Ekemezie, 2014). This encompasses the knowledge, skills, and attitudes outlined in relevant curricula, effective instruction, and approaches, as well as the application of software and material resources (Daher, 2023). It

also encompasses ensuring that schools are well-equipped and staffed with trained, motivated teachers and other support staff; adequate and functional facilities, and a sound institutional structure (Faturoti, 2022). Further, it upholds that education should be fair to all students and should not distinguish the students based on their history or any other reason. The delivery of educational services is of high quality, as the options produced students who can reason, solve problems, and be beneficial to society (Rogers, 2014). Thus, evaluating the effectiveness of online learning platforms on academic performance are another controversial issue. Based on some research, it is believed that online learning can result in equivalent or higher academic performance than conventional classrooms.

According to a meta-analysis by Lee (2023), students enrolled under online conditions performed slightly better than those who received face-to-face instructions. This enhanced performance is usually attributed to some aspects of online learning, such as self-paced learning and repeated access to particular content. However, other research works raise concerns about the quality of instruction being offered online and the readiness of the students and faculty members for the online learning environment. However, the implementation of online learning brings about various hurdles in student interaction (Lembani et al., 2023). Previous studies reveal that students tend to be less active in their online classes than when taught face-to-face. Gherghel et al (2023) have pointed out that engagement in online learning environments may be affected by how well interactive and collaborative activities are employed. Organized and engaging online classes employ technological and teaching tools and online platforms to create a sense of group identity and encourage students' participation (Knight et al, 2017). Therefore, this research on effectiveness of online learning platforms in some selected tertiary institutions in Anambra State is pertinent in providing insights into the loopholes in education delivery and student access to quality education.

Statement of Problem

The emergence of information and communication technology (ICT) has led to technological revolution World Wide and on-line learning appears to be the aspect of ICT that has brought about this revolution in students' learning which includes the use of computer-based and the internet based on line learning. The advances in on-line learning facilities tend to affect every aspect of human endeavour including education. This high technological global communication with various forms of electronic media seems to render obsolete the conventional method of teaching which is characterized by the use of chalkboard, charts, flannel boards and Holographs. However, there appears to be controversial reports on the effectiveness of online learning platforms in tertiary institutions.

Literature shows that online learning platforms tends to enhanced students' level of learning. On the contrary, there appears to be some scholars who stressed that majority of students in tertiary institutions who use online learning facilities were known for low levels of self-efficacy and they performed poorly academically. More so, it seems that many students are not satisfied with online learning environment while there are students in tertiary institutions who are highly satisfied with online learning environment. Identifying challenges such as technological infrastructure, digital literacy, and instructional quality is essential for improving educational standards (Pilotti et al., 2022).

It therefore become very difficult to identify if online learning is effective or not on self-efficacy and academic satisfaction among undergraduate students in tertiary institutions; hence, it is behind this argument that the present study sort to evaluate the effectiveness of online learning platforms in selected tertiary institutions in Anambra state.

Objectives of the Study

The main objective of this study is to evaluate the effectiveness of online learning platforms in selected tertiary institutions in Anambra State. Specifically, the study sought to:

1. Examine the effectiveness of online learning platforms in tertiary institutions in Anambra State.
2. To identify the challenges that influences the successful implementation of online learning platform in tertiary institutions.

Research Questions

1. What are the effectiveness of online learning platforms in tertiary institutions?
2. What are the challenges that influence the successful implementation of online learning platforms in tertiary institutions?

Scope of the Study

This study focuses on evaluating the effectiveness of online learning platforms in tertiary institutions within Anambra State, Nigeria. It specifically examines the effectiveness of these platforms on students' academic performance, engagement, and perceptions of educational quality, as well as the challenges and barriers to effective utilization. The study covers selected tertiary institutions in the state, including universities, polytechnics, and colleges of education, to provide a representative understanding of online learning adoption across different types of institutions.

Significance of the Study

This study can inform policymakers and educators on best practices, ensuring equitable and high-quality education delivery that enhances student success and regional development

Conceptual Review

On-line Learning

The term 'on-line learning' broadly refers to the use of computer technologies in education, whether in face- to-face classrooms, in blended and hybrid courses, in mediated distance education contexts or in online learning environments (Abrami et al., 2019). On-line learning can be seen as the use of electronic information communication technologies (ICTs) in formal learning contexts (Greenall & Loizedes, 2018). According to Galway (2017) on-line learning can transcend the limits of geography to provide access to quality education, regardless of a place of residence. Galway (2014) further said that the use of on-line learning is seen to overcome the challenges of traditional teleconferencing and print-based distance education, including (to name just a few) high costs, inflexibility, scheduling problems, and the inability to accommodate large numbers of students.

Consequently, on-line learning often involves both out-of-classroom and in classroom educational experiences via technology applications and processes such as computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM (Adeleye, 2021). It can be self- paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio (Ekemezie, 2014).

Thus, on-line learning is broader than just online learning because it covers classroom activities that use digital technology, as well as online learning. The system can solve problems of access as work can be accessed from school or home (Keane, 2018).

This access means that the dependency of booking a computer room at a particular time is lessened, and students are both encouraged and challenged to use information technology within an educational context. A successful on-line learning experience will use a combination of the technologies most appropriate for the practitioner, the learner group, the course content and course assessment (Oparaugo et al., 2025). Thus, in the present study, on-line learning is conceptualized as electronic information communication technologies (ICTs) used in teaching-learning process in tertiary institutions in Anambra State

Online Learning Platforms

Online learning platforms (e-learning platforms) are used to offer instructional programs to distant learners (Arkorful & Abaidoo, 2015). It is an online learning platform that emerges in a formal context and utilizes a variety of multimedia technologies. A personal computer is usually used for delivering training or computer-enhanced learning related to e-learning (Songkram, 2015). Other communication technologies deliver learning based on tutorials, learning support systems, and online lectures (Edeh et al, 2020). It is based on technology for improving classroom engagement through positive environment, where students are deliberately engaged in online tutorials for completing a task assigned to them (Ibe 2024). Online learning platform ensures that students are completely involved as learning takes place together with texts, videos, sounds, collaborative sharing, and interactive graphics. It enhances the quality of teaching and learning; report the need for higher institutions for maintaining competitive advantage, and access to education and training in this globalizing marketplace for students (Songkram, 2015). The digital tools are available on the internet network, and the e-learning platforms are digital media-based technology. Educators and students alike benefit from the accessibility of e-learning platforms. Teachers' and students' daily lives have been revolutionized by e-learning platforms (Kattoua et al., 2016). According to research, using an e-learning platform improves students' attitudes toward homework and its value in the educational process (Benta et al., 2014). During the COVID-19 lockdown, online learning platforms proved to be extremely beneficial to students and teachers, as many institutions relied on them for remote education (Ibe, 2024). These online learning platforms include the following WhatsApp teaching, zoom cloud, Google classroom, teleconferencing, teaching through radio programs, teaching through television, text message-based instruction, teaching through e-mail, among others. This is considered very important and there is a need to get these platforms into the classrooms

Benefits of Online Learning

Online learning has substantial benefits and offers unique opportunities for people who might otherwise have limited access to education and training. It incorporates innovative and creative approaches to instruction and provides unprecedented access to resources and information (Ibe, 2024). The following according to Okure (2018) are some benefits of online learning to tertiary institutions:

1. Online learning is student centered. The learner is the core of any online learning system. Materials and activities are designed with the needs and interests of the learner in mind. Students assume control of their learning experience and use it to suit their own specific needs. (Kattoua et al., 2016).
2. Online learning is self-directed and self-paced. Learners control the amount of time they spend on any particular topic. This allows learners to spend additional time on difficult items before moving on or to skip material they already understand. This "individualized" approach usually allows learners to complete their education and training faster than in traditional courses.
3. Online learning is interactive and hands-on. The use of a variety of multimedia in online learning increases students' involvement and reinforces the learning experience. This leads to increased retention and a stronger grasp of the subject at hand.
4. Online learning is flexible. Learning can take place anytime and anywhere, as long as the necessary equipment is accessible. The logistics and expense of face -to-face education and training can be extremely limiting when students are separated by distance. Online learning also allows physically or otherwise challenged students to more fully participate.
5. Online learning provides consistent and effective training. All of the target learners can participate simultaneously and receive the same information, reducing the variability introduced through multiple sessions in different locations.

Challenges Faced in Implementing Online learning in Tertiary Institutions

Implementing online learning in tertiary institutions, like in many other developing countries, comes with a set of unique challenges. While online learning has the potential to revolutionize education and overcome some traditional barriers, several factors hinder its smooth implementation in some institutions. Here are some of the key challenges:

Limited Infrastructure

Access to reliable and high-speed internet is still a significant challenge in some tertiary institutions. Rural areas, in particular, face difficulties in accessing a stable internet connection, hindering the adoption of online learning platforms (Nwokike & Abasili, 2023). According to Nwabufo et al. (2012), the issue of internet connectivity remains a significant challenge, primarily due to the high cost associated with accessing the internet. This situation particularly affects students, who often rely on Cyber Cafés for internet services. Unfortunately, these Cyber Cafés exacerbate the problem by charging relatively high fees per hour (Nwabufo et al., 2012). Also, Musa et al., (2021) affirmed that the bandwidth costs are significantly higher than those in developed countries, leading to strained connectivity.

Technological Barriers:

The digital divide in tertiary institutions poses a significant obstacle to the educational advancement of many students, as a considerable portion of the population lacks access to personal computers or smartphones (Eze et al.,2020). This technological disparity has far-reaching consequences, particularly in the realm of elearning, where digital devices are essential tools for accessing educational resources and participating in online activities (Nwokike & Abasili, 2023). This disparity not only limits their ability to acquire knowledge but also impedes their development of essential digital literacy skills that are increasingly crucial in the modern workforce. The lack of devices is particularly pronounced in rural areas, where infrastructure challenges and economic constraints compound the issue (Nwokike & Abasili, 2023).

Financial Barriers:

The challenge of insufficient funds for ICT infrastructure poses a significant obstacle to the seamless integration and advancement of online learning in Nigeria's educational landscape (Musa et al., 2021). The limitations in financial resources not only impede the initial acquisition of essential technological tools but also extend to the crucial aspects of maintenance and upgrading, creating a perpetual barrier to keeping pace with rapidly evolving online learning platform technologies in tertiary educational system (Eze et al., 2020). According to Okolo and Mallo (2021), Nigeria, like many other nations, faces economic challenges that further exacerbate the financial constraints on educational institutions. The allocation of funds to ICT infrastructure competes with various other pressing needs, making it challenging for schools and universities to prioritize the necessary investments in e-learning. Also, Nwokike & Abasili (2024) confirmed that the scarcity of resources becomes particularly pronounced when considering the high costs associated with electronic teaching facilities, e-content development, and the procurement of ICT devices

Strategies for Improvement of Online Learning Platforms in Tertiary Institutions in Anambra State

1. **Enhance Internet Connectivity**
   According to Egolum (2021), poor internet connectivity is a major barrier to effective online learning in Nigeria. Slow or unreliable internet prevents students from participating in live sessions and accessing digital content. To address this, institutions should collaborate with ISPs to provide stable broadband and affordable educational data plans.
2. **Ensure Stable Power Supply**
   When there is frequent power outages, it disrupt online learning activities. Institutions should invest in backup power solutions such as generators or solar energy systems to maintain uninterrupted online classes, as noted by Chinedu-Eze and Bello (2018). Reliable power is essential for both students' devices and institutional online learning infrastructure.
3. **Provision of Adequate Devices**
   Many students lack access to suitable devices for online learning. Seahi Publications (2024) observes that device shortages limit engagement and participation. Institutions can provide laptops or tablets through loan programs or partner with technology companies to offer affordable devices (Egolum, 2021).
4. **Digital Literacy and Training**
   Low digital literacy among students and lecturers reduces the effectiveness of online learning (Udeze & Adesola, 2024). Regular training workshops can improve skills in navigating learning platforms, creating content, and participating effectively in online lessons.

6. **Institutional Policy and Funding Support**
   Without clear policies and adequate funding, e-learning programs often fail to achieve their goals (Jimoh, Mamman & Ojo, 2024). Institutions should formalize policies that make online learning integral to teaching and allocate dedicated budgets for infrastructure, training, and platform maintenance.

Theoretical Framework

The evaluation of the effectiveness of online learning platforms in tertiary institutions in Anambra State is anchored on two complementary theories: the Technology Acceptance Model (TAM) and the Constructivist Learning Theory. These theories provide a conceptual basis for understanding how students and lecturers adopt and benefit from online learning platforms.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), posits that the acceptance and use of technology are determined primarily by two factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which a user believes that using a particular system will enhance their performance, while perceived ease of use refers to the degree to which a user believes that using the system will be free of effort. In the context of online learning platforms, TAM suggests that students and lecturers are more likely to adopt tools such as Zoom, Microsoft Teams, and Learning Management Systems if they perceive these platforms as helpful in improving learning outcomes and if they find the platforms easy to navigate. Several Nigerian studies such as Orizu (2025) support this, showing that perceptions of usefulness and ease of use strongly influence engagement and performance in online learning environments.

Constructivist Learning Theory

The Constructivist Learning Theory, developed from the works of Piaget (1972) and Vygotsky (1978), emphasizes that learning is an active, constructive process where learners build new knowledge upon the foundation of previous experiences. Constructivism advocates for learner-centered approaches, collaboration, and problem-solving, which align closely with the interactive and flexible nature of online learning platforms. Through online learning platforms, students can engage in self-paced learning, interactive discussions, and collaborative projects, which facilitate deeper understanding and retention of knowledge. By providing opportunities for active participation, these platforms operationalize the principles of constructivism, allowing learners to construct knowledge in meaningful contexts.

Empirical Review

Several empirical studies have examined the effectiveness of online learning platforms in tertiary institutions, both globally and within Nigeria. These studies provide evidence on the benefits, challenges, and outcomes associated with online learning adoption.

Ezeude, Akonu, and Okeke (2024) investigated the effect of e-learning platforms on undergraduate students' academic performance at Nnamdi Azikiwe University, Awka, Anambra State. Their study revealed that students who regularly engaged with platforms such as Zoom, Microsoft Teams, and Moodle demonstrated improved academic performance compared to those relying solely on traditional classroom instruction. The study also found that perceived usefulness and ease of use significantly predicted students' learning outcomes, confirming the relevance of the Technology Acceptance Model in the Nigerian context.

Similarly, Aneke, Aduaka & Ezeh (2021) studied tertiary institutions across Nigeria during the COVID-19 pandemic. They found that the shift to online learning positively impacted student engagement and learning continuity, particularly in institutions that provided adequate technical support and training for both students and lecturers. However, limited access to reliable internet and digital tools was highlighted as a key barrier to achieving maximum effectiveness.

Summary of Literature Review

The literature reviewed in this study highlights several key findings regarding the effectiveness of online learning platforms in tertiary institutions, particularly in the Nigerian context and, more specifically, in Anambra State. From the studies, it show that online platforms can enhance flexibility, accessibility, and engagement, contributing positively to learning outcomes. Research also emphasizes that students' and lecturers' perceptions of usefulness and ease of use significantly influence the effectiveness of these technologies.

However, the literature consistently highlights several challenges and barriers, including unreliable internet connectivity, power supply issues, lack of digital literacy, and limited access to devices. These factors can reduce the benefits of online learning and affect students' academic performance.

Overall, the literature indicates that while online learning platforms have the potential to improve tertiary education, their success depends on adequate infrastructure, training, and support. There is also a need for further studies that evaluate both academic outcomes and user perceptions to provide a more comprehensive understanding of their effectiveness.

Methodology

This study used a descriptive survey research design to assess the effectiveness of online learning platforms in selected tertiary institutions in Anambra State, Nigeria. The descriptive survey research design was adopted because it is the most suitable approach for systematically obtaining the opinions, perceptions, and experiences of a large population regarding the effectiveness of online learning platforms. This design is appropriate because it enables the researcher to gather quantitative data directly from students who actively use these online learning platforms.

Primary data were collected via a manual and structured Google Forms questionnaire developed from insights gained in the conceptual review. The instrument, Evaluating Effectiveness of Online Learning in Selected Tertiary Institutions Questionnaire (EEOLSTIQ), was validated by three experts in the Faculty of Education, Nnamdi Azikiwe University, Awka.

The study population comprised 89,178 undergraduate students from the following institutions (Academic Planning Units, 2024): Nnamdi Azikiwe University, Awka; Chukwuemeka Odumegwu Ojukwu University, Igbariam; Federal Polytechnic Oko; Anambra State Polytechnic, Mgbakwu; Federal College of Education, Umunze; and Nwafor Orizu College of Education, Umunze. A sample of 300 undergraduate students was drawn using simple random sampling. Sampling proceeded in stages: two faculties were randomly selected from each institution, two departments were randomly selected within each chosen faculty, and 25 students per department were randomly selected by balloting, yielding the final sample of 300 respondents.

Data Presentation and Analysis

The presentation was sequentially done according to the answers to the research questions.

Research Question 1: What are the effectiveness of online learning platforms in tertiary institution?

S/N	*ITEM*	*SA*	*A*	*D*	*SD*	*TOTAL*	*X*	*REMARK*
1	Online learning promotes autonomy and self-directed learning among students	20 80	18 54	165 330	97 97	300 561	1.86	Not effective
2	Online learning provides opportunities for students to take ownership of their learning	32 128	35 105	127 254	106 106	300 569	1.98	Not Effective
3	Online learning encourages students to reflect on their learning and set goals	121 482	95 285	44 88	40 40	300 897	2.99	Effective
4	Online learning builds confidence through successful online interactions and feedback	19 57	66 198	154 308	61 61	300 624	2.08	Not effective
5	Online learning provides self-directed technical support for students	86 344	93 279	63 126	58 58	300 807	2.69	Effective
6	Online learning connects students with peers and instructors which builds their confidence for academic excellence	102 408	81 243	36 108	81 81	300 840	2.86	Effective

Cluster mean	2.40	Not effective

Data presented in Table 1 reveals that items 3, 5, and 6 with mean scores 2.99, 2.69, and 2.80 were rated effective by the respondents while items 1, 2, and 4 with mean scores 1.87, 1.98, and 2.08 were rated ineffective by respondents because the mean scores were below the 2.50 threshold. The cluster mean of 2.40 summarized that online learning for effectiveness of online learning in tertiary institutions is ineffective among in Anambra state.

Research Question 2: What are the challenges that influence the successful implementation of online learning platforms in higher education?

S/N	*ITEM*	*MEAN*	*SD*	*REMARK*
1	Inadequate ICT infrastructure e.g computer software(s) and computer accessories.	3.12	0.77	Agree
2	Lack of time to spend in using online learning platform due to teaching workload	2.62	1.01	Agree
3	Irregular electricity supply hampering the utilization of online learning.	3.17	0.82	Agree
4	High cost of installing and maintaining of the gadgets required for online learning.	3.00	0.73	Agree
5	Lack of internet service knowledge among some lecturers and students.	2.72	0.91	Agree
6	Dearth of skilled manpower for implementation and management of available e learning facilities for impacting knowledge.	3.61	0.54	Agree
7	Inadequate training of lecturers on how to integrate e-learning gadgets especially related to educational technology	3.57	0.503	Agree
8	Resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods by lecturers and students.	3.67	0.47	Agree
9	Inability to design didactic rules in e-learning.	3.33	0.47	Agree
10	Lack of ready access to internet, (insufficient bandwidth)	3.49	0.55	Agree
11	The browsing speed in Nigeria is relatively slow, hence it discourages the use of internet in teaching and learning.	3.34	0.57	Agree
12	High cost of personal computer, laptop, software, internet and their technical support.	3.67	0.53	Agree

The result in Table 2 reveals that all the items 1-12 were accepted as they were above the mean cut-off points of 2.50. This indicates that the challenges that affect the use of online learning in tertiary institutions in Anambra state include inadequate ICT infrastructure, lack of time to spend in using e-learning platform due to teaching workload, irregular electricity supply, high cost of installing and maintaining of the gadgets required for e-learning, lack of internet service knowledge among some lecturers and students, dearth of skilled manpower for implementation and management of available e-learning facilities for impacting knowledge, inadequate training of lecturers on how to integrate e-learning gadgets, resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods by lecturers and students, inability to design didactic rules in e-learning, lack of ready access to internet, slow browsing speed in Nigeria and high cost of personal computer, laptop, software, internet and their technical support.

Discussion of Results

The findings from the study revealed significant insights into the state of online learning platform usage in tertiary institutions in Anambra State. First, the results showed that the overall effectiveness of online learning platforms is low, with a cluster mean of 2.40 below the acceptable benchmark of 2.50. Although a few indicators were perceived as effective by respondents (items 3, 5, and 6), the majority of indicators fell below the threshold, indicating widespread dissatisfaction or limited functionality of the platforms. This result suggests that online learning has not yet been fully integrated as a reliable or efficient instructional method for students and lecturers in the selected institutions.

This finding aligns with Adedoyin and Soykan (2020), who noted that many institutions in developing countries struggle to implement online learning effectively due to infrastructural and technical limitations. They argued that while online learning offers flexibility, accessibility, and innovation, its success is highly dependent on the availability of stable internet connectivity, adequate digital literacy, and supportive institutional policies all of which remain insufficient in many Nigerian tertiary institutions. Similarly, Eze et al. (2018) emphasized that digital competence among lecturers and students significantly affects the perceived usefulness and overall effectiveness of online learning tools.

Furthermore, the study found that respondents unanimously identified multiple challenges that hinder the effective use of online learning platforms. All twelve challenge items were rated above the mean cut-off point of 2.50, indicating strong agreement among respondents. Key challenges include inadequate ICT infrastructure, irregular electricity supply, insufficient training for lecturers, resistance to technological change, high cost of digital tools and data subscription, and limited knowledge of online teaching strategies.

The issue of inadequate ICT infrastructure is particularly crucial, as it creates a ripple effect that undermines all aspects of online learning. Owolabi and Okebukola (2021) observed that Nigerian higher institutions often lack functional computer laboratories, high-speed internet, and reliable multimedia tools needed to support digital instruction. The findings of this study also confirm that electricity instability remains a major challenge. Without steady power supplies, students and lecturers experience frequent disruptions that reduce engagement and learning continuity.

Another important challenge identified is insufficient digital skills among lecturers and students. This aligns with the findings of Alhassan (2022), who reported that lack of digital competence frequently results in poor adaptation, low confidence, and ineffective use of learning management systems. Respondents also reported resistance to change, where both students and lecturers prefer traditional face-to-face teaching. This resistance is often rooted in limited familiarity with digital tools, perceived complexity, and the belief that physical classrooms offer better understanding.

Additionally, challenges such as high cost of purchasing devices, poor browsing speed, and expensive internet subscriptions reflect the broader socioeconomic constraints of the Nigerian context. Salami and Igwe (2023) noted that the cost of ICT tools and data remains a major barrier for many students, making digital learning less accessible and sustainable.

Overall, the findings demonstrate that while online learning has considerable potential to transform higher education, its effectiveness in Anambra State is currently hindered by structural, technological, financial, and pedagogical barriers. These findings align with global studies showing that online learning succeeds in environments with strong technological infrastructure but struggles in contexts where basic systems are weak (Hodges et al., 2020). Therefore, the challenges identified in this study are contextual rather than inherent limitations of online learning itself.

Conclusion

This study evaluated the effectiveness of online learning platforms in selected tertiary institutions in Anambra State and identified the key challenges influencing their implementation. Using a descriptive survey design and a sample of 300 students drawn from a population of 89,178 undergraduates, the study found that the overall effectiveness of online learning platforms remains low, with most indicators falling below the acceptable benchmark. Although students acknowledged a few positive aspects of online learning, the platforms have not yet been fully integrated as dependable instructional tools within the institutions.

The study further revealed that the effectiveness of online learning is hindered by multiple challenges, including inadequate ICT infrastructure, unstable electricity supply, limited digital literacy, high cost of digital devices and internet subscription, and resistance to technological change. These challenges reflect broader structural and socioeconomic barriers that align with earlier research highlighting infrastructural, financial, and competency gaps in online learning adoption across developing contexts. The findings therefore indicate that the constraints faced in Anambra State's tertiary institutions are not inherent weaknesses of online learning itself but contextual limitations tied to the learning environment.

To enhance the effectiveness of online learning platforms, the study emphasizes the need for improved ICT facilities, stable power supply, affordable digital devices, enhanced digital literacy training, stronger institutional support, and the adoption of more interactive online teaching strategies. Addressing these challenges will support more effective, equitable, and sustainable online learning experiences for students. The study provides valuable evidence for

policymakers, institutional administrators, and educators seeking to strengthen digital learning systems and improve the overall quality of tertiary institutions delivery in Anambra State.

Contribution to Knowledge

1. This study provides current information on how online learning platforms work in tertiary institutions in Anambra State.
2. It identifies major challenges, like poor internet, lack of devices, and low digital skills.
3. It gives useful insights for schools and policymakers to improve online learning.

Suggestions for Further Research

1. Conduct long-term studies to see how online learning affects students over time.
2. Compare online learning in different states or regions to identify patterns or differences.
3. Include other stakeholders like administrators and parents to get a wider perspective.

Recommendation

The study recommends the following for tertiary institutions in Anambra State:

1. To improve the effectiveness of online learning platforms, tertiary institutions should upgrade their ICT equipment, ensure reliable high-speed internet, and provide functional e-learning facilities that support smooth digital instruction.
2. Regular training programs should be organized to build competence in using online learning tools, reduce resistance to technology, and enhance confidence in digital teaching and learning.

Reference

Adedoyin, O. B., & Soykan, E. (2020). COVID-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*.

Aneke, M. N., Aduaka, S., & Ezeh, C. M. (2021). Effect of migrating to the e-learning platforms on the delivery of higher education in tertiary institutions in Nigeria in the COVID-19 pandemic era. *Sapientia Foundation Journal of Education, Sciences and Gender Studies, 3*(4), 289–305.

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning, 12*(1), 29–42.

Benta, D., Bologa, G., & Dzitac, I. (2014). E-learning platforms in higher education: Case study. *Procedia Computer Science, 31*, 1170–1176. https://doi.org/10.1016/j.procs.2014.05.373

Chinedu-Eze, V. C., & Bello, A. O. (2018). The utilisation of e-learning facilities in the educational delivery system of Nigeria. *International Journal of Educational Technology in Higher Education*. https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-018-0116-z

Christoph, B., Spangenberg, H., & Quast, H. (2024). Tertiary education, changing one's educational decision and the role of parental preferences. *Research in Higher Education, 65*(2), 283–302.

Daher, W. (2023). Saturation in qualitative educational technology research. *Education Sciences, 13*(2), 98.

Ekemezie, E. (2024). Online learning and quality education delivery in tertiary institutions in Anambra State. *Asian Journal of Advanced Research, 11*(5), 132–147. https://doi.org/10.26437/ajar.v11

Egolum, P. U. (2021). E-learning in Nigeria tertiary institutions: A panacea to quality education for national development. *Sapientia Foundation Journal of Education, Sciences and Gender Studies*.

Eze, S. C., Chinedu-Eze, V. C. A., Okike, C. K., & Bello, A. O. (2020). Factors influencing the use of e-learning facilities by students in a private higher education institution in a developing economy. *Humanities and Social Sciences Communications, 7*, 133. https://doi.org/10.1057/s41599-020-00624-6

Eze, C., Chinedu-Eze, V., & Bello, A. (2018). The challenges of implementing e-learning in Nigerian universities. *International Journal of Contemporary Librarianship*.

Ezeude, N. W., Akonu, S. C., & Okeke, H. E. (2024). Impact of e-learning platforms on students' academic performance in Nnamdi Azikiwe University, Awka, Anambra State, Nigeria. *Journal of the Management Sciences, 60*(3), 176–188.

Faturoti, B. (2022). Online learning during COVID-19 and beyond: A human-rights-based approach to internet access in Africa. *International Review of Law, Computers & Technology, 36*(1), 68–90.

Gherghel, C., Yasuda, S., & Kita, Y. (2023). Interaction during online classes fosters engagement with learning and self-directed study in the COVID-19 pandemic. *Computers & Education, 200*, 104795.

Ibe, F. N. (2024). *Assessing the integration of e-learning platforms in achieving effective teaching and learning of chemistry in colleges of education in South-East Nigeria: A case study of Anambra and Imo States*.

Jimoh, I. F., Mamman, J. S., & Ojo, A. E. (2024). Challenges of higher institutions in Nigeria towards digital learning. *KIJE International Journal of Education*.

Johnson, N. E., Short, J. C., Chandler, J. A., & Jordan, S. L. (2022). Introducing the contentpreneur: Making the case for research on content creation-based online platforms. *Journal of Business Venturing Insights, 18*, e00328.

Kattoua, T., Al-Lozi, M., & Alrowwad, A. A. (2016). A review of literature on e-learning systems in higher education. *International Journal of Business Management and Economic Research, 7*(5), 754–762.

Lee, A. V. Y. (2023). Supporting students' generation of feedback in large-scale online courses with artificial intelligence-enabled evaluation. *Studies in Educational Evaluation, 77*, 101250.

Lembani, R., Mulenga, K., Mwewa, P., Mhango, L., & Chaamwe, N. (2023). Are we leaving students behind? Self-directed learning in an ICT-challenged country. *Education and Information Technologies, 28*(3), 3475–3492.

McCowan, T. (2023). *Tertiary education and the sustainability agenda* (Working Paper No. 90). Centre for Global Higher Education.

Musa, A. U., Muhammad, J., & Adakawa, M. I. (2021). Adoption and use of e-learning in Nigerian higher institutions for sustainable socio-economic development. *Ahmadu Bello University Library Complex International Conference Proceedings*. https://www.researchgate.net/publication/368918387

Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during the COVID-19 pandemic. *Social Sciences & Humanities Open, 3*(1), 100101.

Nwabufo, B. N., Umoru, T. A., & Olukotun, J. O. (2012). The challenges of e-learning in tertiary institutions in Nigeria. *The Future of Education Conference Proceedings*. https://conference.pixelonline.net/...

Nwokike, E. C., & Abasili, K. (2023). The effectiveness of e-learning initiative in Nigerian schools: Problems and prospects. *International Journal of Academic Pedagogical Research*, 60–67.

Ocra, B. T., Matey, A. H., Agor, A. D., & Acheampong, L. (2025). The influence of cognitive absorption on perceived usefulness and ease of use in online learning: A study of Ghanaian distance learning students. *African Journal of Applied Research, 11*(4), 73–97.

Okolo, M. M., & Mallo, G. D. (2021). Higher education in Nigeria: Challenges and suggestions. *Middle European Scientific Bulletin, 16*, 55–61.

Rogers, S. H. (2014). *Investigating student satisfaction and retention in online high school courses* (Doctoral dissertation).

Rotar, O. (2024). What we have learned from adult students' online learning experiences to enhance the online learning of other student groups. *Research & Practice in Technology Enhanced Learning, 19*.

Schlegel, T., Pfister, C., & Backes-Gellner, U. (2022). Tertiary education expansion and regional firm development. *Regional Studies, 56*(11), 1874–1887.

Seahi Publications. (2024). Challenges of e-learning in Nigerian higher education: Inadequate infrastructure, devices, power, and low digital literacy. *International Journal of Innovative Information Systems*.

Songkram, N. (2015). E-learning system in virtual learning environment to develop creative thinking for learners in higher education. *Procedia – Social and Behavioral Sciences, 174*, 674–679.

Udeze, A. N., & Adesola, A. T. (2024). Learning technologies: Its role and challenges on students' learning in Nigeria. *International Journal of Library Science and Educational Research*