

STRATEGIES FOR UTILIZING SYNCHRONOUS AND ASYNCHRONOUS E-LEARNING IN TEACHING AND LEARNING BUSINESS EDUCATION COURSES IN UNIVERSITIES IN KWARA STATE

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Abstract

This study explored strategies for utilizing synchronous and asynchronous e-learning technologies in teaching and learning business education courses in universities in Kwara State, Nigeria. A descriptive study design was selected. This study was guided by two objectives, two research questions, and two null hypotheses. The survey sample included 686 lecturers and students in business education at universities in Kwara State. There was no sample due to the sizeable study population. A questionnaire checked by three experts served as a means of data collection. Instrument reliability was assessed using the Cronbach alpha method, yielding an r-factor of 0.78. Data for the research question were reported with mean and standard deviation. An independent-sample t-test was used to test the null hypotheses 1 and 2 at the 0.05 significance level. Lecturers' positive attitude on the relevance of e-learning technologies, adequate provision of interactive whiteboards by school authorities, provision of adequately equipped offices for lecturers in business education, and adequate provision of blogs and podcasting by school authorities among others are strategies used in utilizing synchronous and asynchronous e-learning technologies in teaching and learning of business education courses. Based on this result, this study leads to the conclusion that lecturers and students need to get familiar with and adopt the various synchronous and asynchronous e-learning technologies to enhance the teaching and learning of Business Education courses. For business education to maximize its goals in an era of rapid technological change, business educators should apply e-learning technologies to the teaching and learning of business education and the need for proper provision of ICT laboratories and equipment to curb the e-learning challenges faced by students who use e-learning to study business education courses in universities.

Keywords: *Strategies, Synchronous, Asynchronous, E-Learning, Teaching, Learning, Business Education.*

Introduction

Education is widely acknowledged on a global scale as the fundamental cornerstone and singularly effective instrument for the development and endurance of a country. The effectiveness of policy creation and execution is contingent upon the provision of high-quality education. It reveals individuals' economic capacity, enables people within society to actively engage in and get advantages from the domestic economy, promotes economic growth, and establishes a fundamental basis for societal change. The 21st century has seen significant advancements in educational technology, particularly in the realm of e-learning. Numerous scholars have proposed various conceptualizations of e-learning, reflecting the extensive discourse around its overarching definition. The definition of didactic design principles as proposed by Hedge and Hayward (2004) is being referred to. The primary objective of e-learning is to provide accessible and engaging learning environments via the utilization of digital technology and the Internet while adhering to the principles of instructional design. An innovative strategy aimed at facilitating expedient access to computers, Internet services, and other electronic devices in industrialized nations has the potential to enhance the ease of learning. In a study conducted by Okereke (2010), the author examines the use of various technological technologies and equipment in industrialized nations to facilitate educational processes. The author posits that the utilization of email, real-time text conferencing, and online tutorials has been used in the pedagogical and educational domain for a considerable duration.

According to Abbad et al. (2009), e-learning refers to the use of information and communication technology to provide online access to educational materials for teaching and learning purposes. Comprehensively, the individual defined e-learning as including all forms of electronically facilitated learning, including those conducted via web-based platforms or supported by the Internet. E-learning encompasses both synchronous and asynchronous methodologies. Synchronous e-learning is the term used to describe any kind of learning that occurs in real time. This implies that the acquisition of knowledge



occurs via the use of instant chat and video conferencing, as well as other synchronous, though distant, forms of communication between students and educational experts. Consequently, there is no anticipation of any face-to-face encounters. Moreover, it pertains to an educational occurrence whereby a collective of pupils actively participates in the process of acquiring knowledge simultaneously. Asynchronous e-learning may be likened to synchronous e-learning, as it utilizes online learning technologies to facilitate the exchange of knowledge among individuals without being constrained by temporal or geographical limitations. Asynchronous e-learning effectively fulfills the objective of enabling learning opportunities to occur at any given time and location via the use of computer-mediated communication (CMC) inside online conversations. The cornerstone of asynchronous learning is rooted in constructivist philosophy, which is a learner-centered technique that emphasizes the significance of peer-to-peer interactions. Hedge and Hayward (2004) argue that E-learning, which involves the utilization of the internet and digital technologies in conjunction with instructional design principles, represents an innovative approach to delivering meticulously crafted, learner-focused educational experiences through electronically mediated platforms. This method offers the flexibility of accessing learning materials at any location and time, catering to a wide range of individuals. Hence, via the use of digital technology and the internet in conjunction with instructional design principles, e-learning may be seen as a pioneering approach for providing an electronically mediated, meticulously crafted, and interactive learning milieu that is accessible to anyone at any given moment.

According to Ipaye (2011), e-learning platforms used in developed nations include a range of tools such as websites, wikis, blogs, Second Life, email, Twitter, course management systems, video and audio podcasts, Facebook, threaded discussion lists, video and audio text chat, video conferencing software, and more. Nevertheless, it seems that Nigerian higher educational institutions are not fully capitalizing on the potential of e-learning. Many educational institutions have observed that a significant number of business education students do not own email accounts, lack computer proficiency, and possess little familiarity with e-learning platforms. According to the findings of Olusegun et al. (2006), the utilization of e-learning is influenced by the level of computer literacy among students. It has been observed that a significant number of business education students do not possess the essential computer literacy skills required for the effective integration of e-learning.

Learning refers to the process of acquiring information, developing habits, and cultivating attitudes. This entails the use of novel approaches to overcome challenges or adapt to changing circumstances. This helps individuals fulfill their interests and achieve their desired objectives. The instructional model is a critical component that may impact the efficacy and efficiency of the teaching and learning process. The design fosters the active engagement of students in the teaching and learning process while also prioritizing a student-centered approach to education. According to Branch and Kopecha (2014), an instructional model serves as an effective framework for facilitating teaching. To operationalize an instructional model, educators engage in several learning components to attain predetermined educational goals. The use of Information and Communication Technologies (ICTs) presents instructors and students with advanced learning environments that have the potential to enhance and invigorate teaching and learning processes in the contemporary world. The primary objective of education is to facilitate the transmission of information, ideas, skills, and attitudes from the instructor to the learner.

Teaching is considered one of the primary educational instruments that serves the fundamental purpose of imparting information and skills. For learning to be successful, there must be an act or experience that has a transformative influence on an individual's cognitive faculties, moral disposition, or physical aptitude. The act of teaching would lead to the achievement of the learning process. Consequently, there exists a close and interconnected relationship between the processes of teaching and learning. Ambrose and Flanders (2010) defined learning as a transformative process that encompasses modifications in one's knowledge, beliefs, behaviour, and attitudes. The process of transformation requires a significant amount of time, particularly when individuals are confronted with changes in their attitudes, behaviour, and beliefs. This aligns with the approach used by business education in addressing the modification of behaviour and attitude. According to the National Board for Technical Education (NBTE, 2014), colleges offering Bachelor of Science programmes need applicants to possess the Senior Secondary School Certificate (SSCE) or an equivalent qualification. Additionally, candidates must have obtained credit passes in a minimum of five topics that are relevant to their chosen field of study.

Business education is an integral aspect of vocational and technical education programmes designed to provide individuals with the necessary skills and knowledge to pursue a career in the field of business. Additionally, it empowers individuals to develop critical thinking abilities and make informed decisions as consumers of various goods and services. Business education equips students with a



comprehensive set of competencies, skills, knowledge, and attitudes that are essential for their successful integration into many sectors, including industry, public service, and entrepreneurship. The field of business education is characterized by its focus on practical application, emphasizing the development of skills and competencies with a strong emphasis on achieving specific outcomes. Additionally, business education is heavily influenced by advancements in technology. Ademiluyi and Ayelotan (2022) conducted a study. The effective implementation of e-learning in higher education in Nigeria is confronted by significant challenges, namely technical and financial support, training, enhanced working conditions, technical proficiency, skills, copyright protection, and professional development. These factors play a crucial role in ensuring the successful integration of e-learning within the Nigerian educational system. One significant challenge that hinders the implementation of e-learning in Nigerian colleges is the inadequate quality of internet services. The use of e-learning has been shown to have a positive impact on the enhancement of students' computer abilities, although it necessitates substantial financial investments. The provision of internet connectivity via a data subscription. The deduction rate of subscribed data is a cause for concern, posing a significant drawback for lecturers and students who require frequent subscriptions to ensure their availability for online classes. Additionally, the unpredictable nature of network problems further compounds the issue, as certain areas within the country experience network issues at varying times throughout the day. One additional challenge encountered in the realm of E-learning, which hampers its efficacy in facilitating teaching and learning within universities, pertains to the accessibility and affordability of learning equipment, specifically smartphones. It is worth noting that not all students possess the financial means to procure smartphones, as certain parents continue to grapple with the financial burden of funding their children's education.

Consequently, these students may be unable to acquire smartphones at various stages of their academic journey. The use of e-learning among business education students at tertiary institutions would lay the groundwork for the integration of computer and software technologies in the business environment. The researchers have observed that there is a lack of established knowledge on strategies for utilizing synchronous and asynchronous e-learning among Business Education students at tertiary institutions since previous studies carried out focused more on awareness and challenges of e-learning in teaching and learning of business education. Therefore, this study aims to address this gap. The primary objective of this research is to ascertain the strategies for in using synchronous and asynchronous e-learning methods in the instruction and acquisition of knowledge in business education courses within universities located in Kwara State.

Statement of the Problem

The use of E-Learning to enhance educational opportunities has been seen in many regions of the globe for a considerable period. Certain institutions in Nigeria have begun using it to enhance distance learning (DE) and lifelong learning. The rapid progression of technology has created a need for training updates. The need for ubiquitous learning posed a hindrance to attaining success. In recent times, several educational institutions throughout the globe have seen a resurgence in the use of online learning methods. However, it is worth noting that most educational institutions in Nigeria do not currently use this method of instruction, and its faculty members possess little knowledge and experience in the field of e-learning. E-learning refers to the use of electronic and information and communication technology (ICT) equipment within the context of educational activities (Wolfinger, 2016).

Investigation by the researcher revealed that in Nigeria a significant majority of schools, like those in developed countries, face a dearth of essential resources required for participating in e-learning sessions. The emphasis on using this strategy as a means of instruction and knowledge acquisition should align with the advancements seen in many global contexts (Ada, 2014). Studies over the years by several authors such as (Ipaye, 2011) have revealed that the integration of e-learning technologies inside education programmes in Nigeria remains incomplete, with business education being no exception to this trend. The author further noted that these institutions possess limited or nonexistent cyber centers, computer-equipped classrooms, and high-speed internet infrastructure. Moreover, they may lack the necessary resources to establish and maintain such an infrastructure. According to Ajuzie and Akukwe (2015), the current condition of business education in higher education institutions in Nigeria is characterized by the predominant use of traditional teaching methods, namely the "chalk and talk method." According to Mohammed and Mumtaz (2010), several factors impede the integration of new technologies into the educational process. These factors include insufficient funding, poverty, low telex densities, limited computer culture among students, inadequate access to e-learning technology for studying business education courses, inconsistent power supply, and inadequate maintenance of ICT equipment for e-learning. Therefore, it is important to analyze the techniques for effectively using synchronous and



asynchronous e-learning technologies in the context of teaching and learning in university business education programmed since these challenges in e-learning are significant. With the objective in consideration, the present research was undertaken to investigate the approaches used in leveraging synchronous and asynchronous e-learning technologies to instruct and acquire knowledge in business education courses inside universities situated in Kwara State

Research Questions

For research purposes, the following research questions were asked to guide the study.

1. What are the strategies used in utilizing synchronous e-learning technologies in teaching and learning business education courses in universities?
2. What are the strategies used in utilizing asynchronous e-learning technologies in teaching and learning business education courses in universities?

Research Hypotheses

Based on the specific purpose of the study and research questions, the following null hypotheses were formulated and tested at a 0.05 level of significance:

- H01: There is no significant difference between the mean responses of males and females on the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business education courses in universities.
- H02: There is no significant difference between the mean responses of lecturers and students on the strategies used in utilizing asynchronous e-learning technologies in teaching and learning Business education courses in universities.

Method

A descriptive research study design was used for this study. A total of 686 respondents were used, including 37 lecturers and 649 business education students from the universities they serve. Data were collected using a structured questionnaire. This tool has been validated by three business education experts. Their comments reinforced the surface and practical validity of the document. To establish the internal consistency of the survey instrument, a pilot test was conducted in which data collected using the Statistical Package for the Social Sciences (SPSS) version 26 applications were analyzed using the Cronbach alpha reliability method. The analysis showed a reliability factor of 0.78, indicating that the instrument is reliable and suitable for research. The questionnaire consisted of a 4-point scale with response categories such as 'high level', 'moderate level', 'low level', and 'very low level'. Administration of the instrument was performed personally by the researcher with the assistance of two research personnel. Of the 686 questionnaires issued, 646 were returned in full. A total of 646 questionnaires were used for data analysis, corresponding to a response rate of 94.9%. Data collected on the research questions were analyzed with descriptive statistics (frequency, mean, standard deviation), and independent-sample t-tests were used to test the hypotheses. When testing the null hypothesis that the observed significance value in the t-test is less than or equal to the 0.05 significance level, the null hypothesis was rejected. Otherwise, the null hypothesis was not rejected.

Responses of Research Question One: What are the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business Education courses in universities?

Table 1: Mean and standard deviation of responses on the strategies used in utilizing Synchronous e-learning technologies in teaching and learning of business education courses

		N _L = 35 and N _S = 646		
S/N	Item Statements	\bar{X}	SD	Remark
1.	Adequate provision of interactive whiteboards by school authorities can enhance the teaching and learning of Business Education courses.	2.74	0.76	Agreed
2.	There is provision and accessibility of multimedia such as a Computer and Projector based on one student one computer during class session.	2.45	1.09	Disagreed
3.	Sponsoring lecturers to attend workshops/seminars can enhance the teaching and learning of Business Education.	2.68	0.84	Agreed
4.	Students' positive attitude toward the relevance of e-learning can enhance the teaching and learning of Business education	2.40	0.99	Disagreed



courses.

5.	Reduction in the cost of data bundles and other internet facilities can enhance the teaching and learning of business education.	2.59	0.77	Agreed
6.	The lecturer's positive attitude toward the relevance of e-learning technologies can enhance the teaching and learning of business education.	2.88	0.99	Agreed
7.	The provision of adequate electricity supply can enhance the teaching and learning of business education courses.	2.62	1.11	Agreed
Weighted average		2.62	0.94	Agreed

Source: Field Survey, 2022

Analysis of data in Table 1 shows the mean and standard deviation of responses on the strategies used in utilizing synchronous e-learning technologies for teaching and learning business education courses in universities. The table reveals that the respondents agreed that adequate provision of interactive whiteboards by school authorities can enhance the teaching and learning of Business Education courses. Sponsoring lecturers to attend workshops/seminars can also enhance the teaching and learning of Business Education and a reduction in the cost of data bundles and other internet facilities can also enhance the teaching and learning of business education courses. These were supported by mean scores of 2.74, 2.68, and 2.59. In addition, the respondents agreed that lecturers' positive attitude toward the relevance of e-learning technologies can enhance the teaching and learning of business education, just like the provision of adequate electricity supply can enhance the teaching and learning of business education courses. These were also supported by mean scores of 2.88 and 2.62. Though the respondents disagreed that the provision and accessibility of multimedia such as computers and projectors based on one student to one computer during class sessions is a strategy, they also disagreed that students' positive attitude on the relevance of e-learning can enhance the teaching and learning of Business Education courses. These were supported by mean scores of 2.45 and 2.40. The table reveals that all seven items have standard deviations ranging from 0.76 to 1.11. This means that the responses of the respondents are not widespread as they are close to their respective mean scores. Table 5 shows a grand calculated weighted average mean and standard deviation of 2.62 and 0.94 respectively. This implies all the items are strategies for utilizing synchronous e-learning technologies for teaching and learning business education courses in universities (mean = 2.62, SD = 0.94).

Research Question Two

What are the strategies used in utilizing asynchronous e-learning technologies in teaching and learning Business Education courses in universities?

Table 2: Mean and standard deviation of responses on the strategies used in utilizing Asynchronous e-learning technologies in teaching and learning of business education courses

N _L = 35 and N _S = 646				
S/N	Item Statements	\bar{X}	SD	Remark
1.	Adequate provision of blogs and podcasting by school authorities can enhance the teaching and learning of business education courses.	2.81	1.02	Agreed
2.	Procurement of e-learning electronic devices by the school management can enhance the teaching and learning of business education courses.	2.74	0.99	Agreed
3.	The provision of adequate electricity supply can enhance the teaching and learning of business education courses.	2.71	1.04	Agreed
4.	The provision of adequately equipped offices for lecturers in business education can enhance the teaching and learning of business education courses.	2.91	0.98	Agreed
5.	The provision of adequate word processing laboratories fitted air conditioners and good lighting by school authorities can enhance the teaching and learning of business education courses.	2.47	1.06	Disagreed



6. Effective and proper use of email in the dissemination of information and coursework can enhance the teaching and learning of e-learning in business education.	2.65	0.94	Agreed
7. Proper use of audio/video conferencing can enhance the teaching and learning of business education courses.	2.39	1.10	Disagreed
Weighted average	2.67	1.02	Agreed

Source: Field Survey, 2022

Analysis of data in Table 2 shows the mean and standard deviation of responses on the strategies used in utilizing asynchronous e-learning technologies for teaching and learning business education courses in universities. The table reveals that the respondents agreed that adequate provision of blogs and podcasting by school authorities can enhance the teaching and learning of Business Education courses. Similarly, they agreed that procurement of e-learning electronic devices by the school management can enhance the teaching and learning of business education courses as well as provision of adequate electricity supply can enhance the teaching and learning of business education courses. These were supported by mean scores of 2.81, 2.74, and 2.71. In addition, the respondents agreed that the provision of adequately equipped offices for lecturers in business education, and effective and proper use of email in the dissemination of information and coursework are strategies for enhancing the teaching and learning of e-learning in business education. These were also supported by mean scores of 2.91 and 2.65. Though the respondents disagreed that the provision of adequate word processing laboratories fitted with air conditioners and good lighting by school authorities can enhance the teaching and learning of business education, the same way they disagreed that proper use of audio/video conferencing can enhance the teaching and learning of business education courses. These were supported by mean scores of 2.47 and 2.39. The table further reveals that all seven items have a standard deviation ranging from 0.94 to 1.10. This means that the responses of the respondents are not widely spread as they are close to their respective mean scores. Table 2 shows a grand calculated weighted average mean and standard deviation of 2.67 and 1.02 respectively. This implies that all the items are strategies used in utilizing asynchronous e-learning technologies for teaching and learning business education courses in universities (mean = 2.67, SD = 1.02).

H01: There is no significant difference between the mean responses of males and females on the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business Education courses.

Table 3: Summary of t-test of the difference between the mean responses of males and Females on the strategies used in utilizing synchronous e-learning technologies for teaching and learning Business Education courses

Group	N	Mean	SD	t-cal	df	p-value	Decision
Male	298	2.55	0.18	5.736	679	0.000	H ₀₂ Rejected
Female	383	3.68	0.37				

Source: Field Survey, 2022

Analysis of data in Table 3 reveals that there are 298 male and 383 female respondents. The male and female respondents' responses indicated that the respondents agreed with the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business education courses ($\bar{X} = 2.55$; SD = 0.18) and ($\bar{X} = 3.68$; SD = 0.37). Their responses are close to the mean as the standard deviations are very low. The table reveals that there was a significant difference in the mean response of males and females on the strategies used in utilizing synchronous e-learning technologies for teaching and learning Business Education courses in universities ($t_{679} = 5.736$, $P < 0.05$). Therefore, the null hypothesis that states that there is no significant difference in the mean responses of males and females on the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business education courses in universities was rejected. This implies that males and females differ significantly in their responses regarding the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business Education courses. Their responses showed that female respondents rated the strategies higher than male respondents (mean difference = 1.13).

H02: There is no significant difference between the mean responses of lecturers and students on the strategies used in utilizing asynchronous e-learning technologies for teaching and learning Business Education courses.



Table 4: Summary of t-test of the difference between the mean responses of lecturers and Students regarding the strategies used in utilizing asynchronous e-learning technologies for teaching and learning Business Education courses

Group	N	Mean	SD	t-cal	df	p-value	Decision
Lecturers	35	2.71	0.00	0.850	679	0.396	H ₀₃ Not Rejected
Students	646	2.66	0.35				

Source: Field Survey, 2022

P>0.05

Analysis of data in Table 4 reveals that there are 35 lecturers and 646 students. The lecturer's and students' responses showed they agreed to the constructs as strategies used in utilizing asynchronous e-learning technologies for teaching and learning Business Education courses ($\bar{X} = 2.71$; SD = 0.00) and ($\bar{X} = 2.66$; SD = 0.35). Their responses are close to the mean as the standard deviations are very low. The table further reveals that there was no significant difference in the mean ratings of lecturers and students regarding the strategies used in utilizing asynchronous e-learning technologies for teaching and learning of Business Education courses in universities ($t_{679} = 0.850$, $P > 0.05$). Therefore, the null hypothesis was not rejected. This implies that lecturers and students do not differ significantly in their responses regarding the strategies used in utilizing asynchronous e-learning technologies for teaching and learning Business Education courses in universities.

Discussion of Findings

Research question one sought to examine the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business Education courses in universities. Research hypothesis 1, states that there is no significant difference between the mean responses of male and female responses on the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business Education courses in universities. The findings of research question 1 reveal that every listed item was a strategy for utilizing synchronous e-learning technologies for teaching and learning of Business Education courses in universities as indicated with the mean score and standard deviation of 2.62 and 0.94 respectively. It was also revealed that there was significant difference in the mean responses of male and female respondents on the strategies used in utilizing synchronous e-learning technologies for teaching and learning Business Education courses in universities as shown in the result of the test of null hypothesis one. Therefore, the null hypothesis that states that there is no significant difference between the mean responses of male and female responses on the strategies used in utilizing synchronous e-learning technologies in teaching and learning Business Education courses in universities was rejected. The reason for this would be that male and female lecturers differ in their response on the strategies used for utilizing synchronous e-learning in teaching and learning of business education courses in universities as the female respondents rated the strategies higher than the male respondents did. This finding is consistent with Omojetah and Utoware, (2018) who conducted a study in universities in South-East Nigeria. They stated that in-service training for business educators on the use of new technologies in instructional delivery, the installation of internet facilities to create an e-environment in universities, the provision of regular electricity to underpowered technological equipment, and the adoption of institutional law to enforce maintenance of new technological apparatus among others are notable methods for enhancing the use of modern technologies in Business Education.

Research question two examined the strategies used in utilizing asynchronous e-learning technologies in teaching and learning Business Education courses in universities while research hypothesis 2, stated that there is no significant difference between the mean responses of male and female teachers on the strategies used in utilizing asynchronous e-learning technologies in teaching and learning of Business Education courses in universities. The finding confirmed all the items as strategies for utilizing asynchronous e-learning technologies for teaching and learning Business Education courses in universities as indicated with the mean score and standard deviation of 2.67 and 1.02 respectively. It was further revealed that there was no significant difference in the mean ratings of lecturers and students regarding the strategies used in utilizing asynchronous e-learning technologies for teaching and learning of Business education courses in university. However, Hypothesis two was not rejected. This implies that lecturers and students do not differ significantly in their responses regarding the strategies used in utilizing asynchronous e-learning technologies for teaching and learning Business Education courses in universities.



Conclusion

Based on the findings of the study, it was concluded that e-learning is evident and has a positive effect on the teaching and learning of business education courses in universities, as the study has delved into the critical realm of integrating synchronous and asynchronous e-learning technologies into the teaching and learning of business education courses in universities. Therefore, it was concluded that the integration of asynchronous and asynchronous e-learning technologies offers immense potential for universities. Therefore, it was concluded that lecturers and students need to get acquainted with various strategies for enhancing the effective utilization of synchronous and asynchronous e-learning technologies in teaching and learning of Business Education courses in universities as identified by the study. The strategies include sufficient provision of blogs and podcasting by school authorities can enhance the teaching and learning of Business Education courses, provision and accessibility of multimedia such as computer and projector based on one student to one computer during class sessions, and reduction in cost of data bundle and other internet facilities can enhance the teaching and learning of Business Education among others. Many challenges were also found to constrain the utilization of e-learning technologies by students. Some of the challenges were: the high cost of maintenance of ICT equipment for e-learning, the high cost of data bundle, poor Internet services by network providers, unstable Internet services/network, unsteady/poor power supply to power the Internet-enabled devices, among others. For business education to therefore maximally attain its goals in the phase of advancing rapid technological changes and development, effort should be made by the business educators to effectively use the ICT facilities in the teaching and learning of business education. This could be improved if the above challenges were reduced or eliminated to improve competitive graduate production.

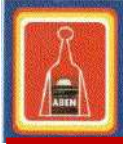
Recommendation

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

1. Tertiary institutions' administration should ensure adequate provision of interactive whiteboards, provision and accessibility to multimedia such as projectors, computers, and supply of steady electricity, among others, are strategies Business Education lecturers should apply in utilizing synchronous e-learning technologies in teaching and learning of Business Education courses in universities
2. Sufficient supply of blogs and podcasting, proper use of audio/video conferencing, provision of e-learning electronic devices by the school management, and effective and proper use of email in sharing information and course work are strategies Business Education lecturers should apply in utilizing asynchronous e-learning technologies in teaching and learning of Business Education courses in universities.

References

- Abbad, M. M., Morris, D. & De-Nahlik, C. (2009). Looking under the bonnet: Factors affecting students' adoption of e-Learning systems in Jordan: *The International Review of Research in Open and Distance Learning*.
- Adeoye, I. A., Adanikin, A. F., & Adanikin, A. (2020). COVID-19 and e-learning: Nigeria tertiary education system experience. *International Journal of Research and Innovation in Applied Science*, 5(5), 28-31.
- Ademiluyi, L.F. & Ayelotan, O. I. (2022). Adequacy of ICT for effectiveness of online teaching and learning – post Covid-19 in Ogun State public tertiary institutions. *KWASU International Journal of Education (KIJE)* 4 (1).
- Ada, A. (2014). *Assessment of availability and utilization of e-learning technologies in business Education programme in tertiary institutions in Delta State*. Unpublished (unpublished M.Sc Project), Delta State university.
- Ajuzie, N., E., & Akukwe, A., C., (2015). An assessment of the use of ICT tools by students to the study of Business Education. *World Scientific News*, 9(1), 9-17.
- Hedge, N., & Hayward, L. (2004). Redefining roles. University e-learning contributing to life-long learning in networked world. *E – Learning*, 1, 128-145.
- Ipaye, B., (2011). *E-earning in a Nigerian open university*. Retrieved on June 16, 2011, from <http://linc.mit.edu/linc2010/proceedings/session1ipaye.pdf>.
- Nwabufo, B.N., Umoru, T.A., & Olukotun, J.O. (2012). The challenges of e-Learning in tertiary institutions in Nigeria. (2nd Edition) International Conference the Future of



- Education. https://conference.pixelonline.net/conferences/edu_future2012/common/download/Paper/
- Ndinechi, G. I., & Bupo, G. O. (2015). Awareness of e-learning among business education students in Anambra State tertiary institutions. *International Journal of Educational Research and Development*, 5 (1), 101 – 108.
- NBTE (2014). *Guidelines and procedures for the establishment of private technical and Technological institutions in Nigeria*.
[https://net.nbte.gov.ng/sites/default/files/201710/Guidelines%20and%20Procedures%](https://net.nbte.gov.ng/sites/default/files/201710/Guidelines%20and%20Procedures%20.pdf)
- Manir, K. A. (2011). Implication of ICTs in libraries of higher education institutes: A panacea catapulting library development in Africa. *DESIDOC Journal of Library & Information Technology*, 31(1), 65-71.
- Okiki, C.O. (2011). *Information communication technology support for an e-learning environment at the University of Lagos, Nigeria*. Retrieved on June 20, 2011, from <http://www.fags.org/periodicals/201102/2296746331.html>
- Okereke, E.C. (2005). Strategies for integrating information and communications technology in the business teacher education curriculum. *Journal of Vocational and Adult education*, 4(1), 95 – 105.
- Ssekakubo, G., Suleiman, H. & Marsden, G. (2011). Issues of adoption: Have e-learning management systems fulfilled their potentials in developing countries? Available at <http://www.sallCSIT.ac.za/afuniv.html>. accessed on 20 August 2018
- Shereen, M. A., Khan, S., Kazmi, A., Bashir, N. & Siddique, R. (2020). COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses. *J Adv Res*, 24(7), 91–98.
<https://doi.org/10.1016/j.jare.2020.03.005>
- Utoware, S. O. & Jude, J. D. (2018). Challenges and strategies application in teaching and learning business education in the E-world in universities in Southeast Nigeria
- Watty, K., McKay, J., Leanne Ngo, L., McGuigan, N., Leitch, S. & Kavanagh, M. (2015). Portfolios in business education, a national study of eportfolio implementation 2013 to 2015. 13p3 CA ANZ_ePortfolios in Business Education Paper_ FA. Indd. Retrived from: [charteredaccountantsanz.com](http://www.charteredaccountantsanz.com)
- Wolfinger, S. (2016). *An exploratory case study of middle school student academic achievement in a fully online virtual school* (Doctoral dissertation, Drexel University). Drexel University.