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Development And Evaluation of Blackboard Learn for Teaching Selected Educational Technology Concepts in Ijebu Ode Metropolis

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ABSTRACT

This research succinctly investigates the development and evaluation of blackboard learn for teaching selected educational technology concepts in Ijebu Ode metropolis. The research investigated the development and availability of Blackboard Learn for teaching educational technology concepts in Ijebu ode. The research also evaluated the extent to which Blackboard Learn is being used for teaching educational technology concepts in Ijebu ode, while also determining the benefits and challenges of Blackboard Learn in teaching educational technology concepts. The study adopted the descriptive research design and questionnaire tool was used as instrument of data gathering. The findings thus, revealed that that there is lack of availability of Blackboard Learn in teaching educational technology in Ijebu Ode. The findings also revealed that there are several challenges associated with the adoption of Blackboard Learn for teaching in Nigeria. It revealed further that there are technical challenges when using Blackboard Learn for educational technology instruction in Ijebu Ode. Based on the findings, the research recommends that; efforts should be made to increase the availability of Blackboard Learn in educational institutions in Ijebu Ode, in order to properly harness its benefits. The research also recommended that institutions should offer comprehensive training programs for educators, given the differences in experience levels among lecturers.

Keywords: *Blackboard Learn, Education, Teaching and learning, Secondary school, educational technology, Ijebu-Ode.*

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Introduction

Many people consider the 21st century to be the technological age. The function of technology in modern society is crucial. It is considered crucial to the development of any economy. An economy that lacks technological advancements will always be at a disadvantage. This is due to the fact that technology has made our jobs considerably simpler and quicker. The educational sector is only one area where technological advancements have had an effect (Raja & Nagasubramani, 2018). Education has adopted the use of technology in many areas that we now have the concept of educational technology.

Educational technology can be seen as the application of technological processes and resources to the improvement of learning (Saini & Goel, 2019). This emerging technology has altered perspective on education and the ways in which teaching and learning is being approached. Furthermore, the term educational technology refers to the use of digital media in the classroom, such as computers, software, CD/DVD drives, video players, and the World Wide Web. Technology like this may be employed in the classroom since it makes previously inaccessible amounts of data readily available in a non-linear way. Thus, the systematic use of procedures to attain a purpose is as critical as the use of technical equipment for the same, and both are included in the definition of technology.

However, in the same way that computers are the hardware of technology, methods are the software. Every new piece of hardware is accompanied by an equally novel set of methods and approaches. The hard component (physical equipment) for the sake of this research includes things like phone books, answering machines, fax machines, telephone shopping, etc. (Meena, 2020). Technology in the classroom helps both students and teachers alike. Apart from enabling students to expand their learning possibilities, technology can also improve teacher efficiency. It also allows teachers to modify their teaching methods to suit the learning concepts to be taught.

Blackboard Learn, an e-learning technology is a web-based virtual learning environment and learning management system developed by Blackboard Inc. The software features course management, customizable open architecture, and scalable design that allows integration with student information systems and authentication protocols. With the integration of Blackboard Learn in teaching and learning environment, it will contribute to effective communication and student learning. Furthermore, Blackboard Learn, is a web-based learning management system (LMS) that is designed to supplement hybrid and face-to-face courses. In some cases, Blackboard may house full online courses while providing tools and course feature to enhance the learning experience (Masino, 2015).

As an e-learning tool, Blackboard Learn allows faculty to add resources for students to access online. Also, PowerPoint, captivate, video, audio, animation, and other applications are created outside of Blackboard Learn, but can be added into Blackboard courses for students to enhance teaching and learning efforts. The teaching of a concepts in Educational Technology may be effectively achieved through the use of Blackboard Learn where students can revise their work as much as they like based on the oral and visual feedback that the teacher provides. Again, there is need for more than the face-to-face (traditional) settings to teach these concepts but the subject is usually taught by using just the face-to-face (traditional) settings in majority of the institutions in Nigeria. In some cases the students might forget some of the concepts being taught.

Educational technology is the integration of technology into the teaching and learning process to enhance the learning experience for students. There are three main concepts of educational technology, and they are: technological tools, pedagogical strategies, and learning environments. From the foregoing, it becomes necessary to evaluate how Blackboard Learn can be integrated into teaching concepts in educational technology. It is against these backdrops that this study intends to examine the development and evaluation of Blackboard Learn for teaching selected educational technology concepts in Ijebu Ode Metropolis.

1.1 Statement of Problem

Educational Technology is the field of study that investigates the process of analyzing, designing, developing, implementing, and evaluating the instructional environment, learning materials, learners, and the learning process in order to improve teaching and learning. However, there are three main concepts of educational technology, and they are: technological tools, pedagogical strategies, and learning environments. Furthermore, teaching with technology is a broad topic that includes the use of media tools integrated within Learning Management Systems (LMS) and/or those run more independently over the Internet. It also involves differing media types (i.e. social or dyadic) and functions (i.e. synchronous or asynchronous) (Januszewski & Molenda, 2013).

The aim of this research is to clearly investigate the development and evaluation of Blackboard Learn for teaching selected educational technology concepts in Ijebu Ode Metropolis. There have been research on several LMS technology in teaching and learning. However, there is a gap in examining the development and evaluation of Blackboard learn for teaching educational concepts, which is the aim of this research. However, there is a gap in examining the development and evaluation of Blackboard learn for teaching educational concepts, which is the aim of this research.

1.2 Purpose of the Study

The main objective of the study is to examine the development and evaluation of Blackboard Learn for teaching selected educational technology concepts in Ijebu Ode Metropolis. Specifically, the study will

1) Investigate the development and availability of Blackboard Learn for teaching educational technology concepts in Ijebu ode;

2) Evaluate the extent to which Blackboard Learn is being used for teaching educational technology concepts in Ijebu ode;

3) Determine the benefits of Blackboard Learn in teaching educational technology concepts;

4) Examine the possible factors that can hinder the effective use of Blackboard Learn for teaching educational technology concepts in Ijebu ode.

1.3 Research Questions

For the purpose of this study, the following research questions are generated:

1) What is the level of development and availability of Blackboard Learn for teaching educational technology concepts in Ijebu Ode?

2) To what extent can Blackboard Learn in teaching educational technology concepts in Ijebu Ode be evaluated?

3) What are the benefits of Blackboard Learn in teaching educational technology concepts?

2. Literature Review

Blackboard Learning, an innovative and widely used platform in the realm of educational technology, has revolutionized the way teaching and learning are conducted in the digital age. Rooted in the concept of e-learning and Learning Management Systems (LMS), Blackboard Learn offers a comprehensive and integrated platform for educators and students to engage in effective online teaching and learning experiences (Muttappallymyalil, at al., 2016). At its core, Blackboard Learn serves as a virtual blackboard or chalkboard, metaphorically mimicking the traditional classroom setting in the digital space. It provides educators with the tools to create and manage course content, assignments, assessments, discussion forums, and various interactive resources (Kinash, brand & Matthew, 2012).

Consequently, this centralized platform empowers instructors to design dynamic and engaging online courses that cater to diverse learning styles. Through multimedia integration, such as videos, audio clips, and interactive simulations, educators can enrich the learning experience and make complex concepts more accessible to students. Blackboard Learn's user-friendly interface also fosters collaboration and interaction among students and instructors. Discussion boards and live chat features facilitate virtual class discussions, enabling students to share ideas, ask questions, and engage in meaningful dialogues, even when not physically present in a classroom. This not only cultivates critical thinking and communication skills but also helps build a sense of community within the online learning environment ((Al Mansoori, Taani, Al Aghar, & McMinn, 2022).

The platform also offers assessment and grading tools that streamline the evaluation process. Furthermore, educators can create online quizzes, assignments, and exams, automating the grading process for multiple-choice questions and providing prompt feedback to students. This immediate feedback loop enhances the learning experience, as students can identify their strengths and areas for improvement in real time (Al Mansoori, et al., 2022). Additionally, Blackboard Learn promotes personalized learning experiences. With features like adaptive

learning modules and customizable content pathways, educators can tailor the learning journey to individual student needs. This differentiation ensures that students can progress at their own pace, mastering concepts before moving forward, and receiving additional support as required (Mbuva, 2015).

Consequently, one of blackboard learn's significant advantages is its accessibility. Blackboard Learn is designed to accommodate a wide range of devices, making it possible for students to engage with course materials and activities using computers, tablets, and smartphones. This flexibility is crucial for learners who may have varied technological resources. Conclusively, Blackboard Learn stands as a cornerstone of educational technology, embodying the convergence of traditional teaching principles and digital innovation. By providing a versatile and interactive platform for educators and students, it has redefined the landscape of online learning, fostering engagement, collaboration, and personalized education. However, as technology continues to evolve, Blackboard Learn's legacy as a pioneering Learning Management System remains an integral part of the ongoing transformation in education.

3. Methodology

3.1 Research Design

The research design will be descriptive survey research design. A survey research is a design in which the entire population or representative sample is studied by collecting and analyzing data from a group through the use of questionnaire. The design considered suitable since this study solicited information from the sample selected.

3.2 Population, Sample and Sampling Techniques

The population of this study will be all lecturers of Tai Solarin University of Education will serve as the respondents for this study. Lecturers from the college of Specialized and Professional Education (COSPED) will form the sample for this study. However, there are six departments in this college, thus, seventeen (17) lecturers each will be selected from the departments and they will constitute the population for this study. In all, one hundred and two (102) lecturers will constitute the sample for this study.

Using simple random sampling technique, a sample of one hundred and two (102) lecturers will be selected from the six (6) departments in the college of COSPED in the university. A total of 17 lecturers each will be selected from each of the six (6) departments.

3.3 Research Instrument

The instrument for data collection in this research will be a researcher-designed questionnaire. The questionnaire will be divided into two sections (A and B). Section A consists of respondents demographic data while the Section B contains a list of items, totaling five (5) items each under each research questions. These items are related to the variables being examined using the scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

3.4 Validation and Reliability of the Instrument

The instrument will be subjected to face and content validity by the researcher's supervisor where the draft copy of the instrument submitted will receive necessary corrections and suggestions before the final copy were produced and used for the research.

Reliability is the degree to which an instrument yields consistent results. For this research, a trial test of the instruments will be carried out for the purpose of determining their internal consistency and stability. Three lecturers from the department of Education Technology at Tai Solarin University of Education will be in testing the reliability of the instruments. These respondents were selected because they have deep knowledge of the subject matter. The consistency will be done with Test-retest reliability. This is a measure of reliability obtained by administering the same test twice over a period of time to a group of individuals.

3.5 Procedure for Data Collection

The researcher's will collect a letter of u=introduction from the Head of Educational Technology Department. The copies of the instruments will be administered personally by the researcher and research assistants to the sample. The respondents will respond to the questionnaire items objectively. The completed copies of the questionnaire will be retrieved by the researcher immediately for onward statistical data analysis.

3.6 Data Analysis Techniques

The data collected from the administration of the instrument was analyzed and interpreted using mean and standard deviation (SD) for answering the research questions while the hypotheses will be analyzed using inferential statistics, t-test and ANOVA.

4 Results

Research Question 1

What is the level of development and availability of Blackboard Learn for teaching educational technology concepts in Ijebu Ode?

S/N	Questions	SA	%	A	%	SD	%	D	%
1	Students are familiar with Blackboard Learn as a platform for teaching educational technology concepts in Ijebu Ode	55	53.9%	36	35.3%	5	4.9%	6	5.9%
2	There is lack of availability of Blackboard Learn in teaching educational technology in Ijebu Ode	74	72.6%	19	18.6%	5	4.9%	4	3.9%
3	Lecturers have received training on how to effectively use Blackboard Learn for teaching educational technology concepts in Ijebu Ode	64	62.7%	24	23.6%	10	9.8%	4	3.9%
4	The current features and functionalities of Blackboard Learn meet the specific needs of teaching educational technology in Ijebu Ode	60	58.9%	19	18.6%	4	3.9%	19	18.6%
5	There are several challenges or limitations in the use of Blackboard Learn for teaching educational technology concepts in Ijebu Ode	72	70.6%	12	11.8%	10	9.8%	8	7.8%
	Average Grand mean Score		**51.74%**		**21.58%**		**6.66%**		**8.02%**

From the above table 4.2, it is shown that about 89% of respondents agreed that students are familiar with Blackboard Learn as a platform for teaching educational technology concepts in Ijebu Ode, while other respondents disagreed with this premise. Also, about 91% of respondents believes that there is lack of availability of Blackboard Learn in teaching educational technology in Ijebu Ode, while others disagree. Furthermore, 86% of respondents are of the same opinion that lecturers have received training on how to effectively use Blackboard Learn for teaching educational technology concepts in Ijebu Ode, while others disagreed. Also, 77% of the respondents agreed that the current features and functionalities of Blackboard Learn meet the specific needs of teaching educational technology in Ijebu Ode, while others disagreed. Lastly, 81% of the respondents agreed that there are several challenges or limitations in the use of Blackboard Learn for teaching educational technology concepts in Ijebu Ode, while about 19% others disagreed.

Research Question 2

To what extent can Blackboard Learn in teaching educational technology concepts in Ijebu Ode be evaluated?

S/N	Question	SA	%	A	%	SD	%	D	%
1	The effectiveness of using Blackboard Learn in teaching educational technology concepts in Ijebu Ode is significant	65	63.7%	26	25.5%	5	4.9%	6	5.9%
2	There are different methods to evaluate the impact and success of using Blackboard Learn for educational technology instruction	84	82.4%	9	8.8%	5	4.9%	4	3.9%
3	Blackboard Learn provides sufficient tools and data for conducting assessments and evaluations in the context of Ijebu Ode	64	62.7%	24	23.6%	10	9.8%	4	3.9%
4	Challenges exist when attempting to assess the outcomes of using Blackboard Learn for teaching educational technology concepts in Ijebu Ode	70	68.6%	29	28.4%	4	3.9%	19	18.6%
5	Lecturers have made improvements to their teaching methods based on the feedback and evaluation data gathered from Blackboard Learn	72	70.6%	12	11.8%	10	9.8%	8	7.8%
	Average Grand mean Score		**69.6%**		**19.6%**		**6%**		**8%**

According to the table above 4.3 above, about 89% of respondents are of the opinion pertaining to the fact that the effectiveness of using Blackboard Learn in teaching educational technology concepts in Ijebu Ode is significant, while about 11% disagreed with this notion. Also, another 90% of the respondents agreed that there are different methods to evaluate the impact and success of using Blackboard Learn for educational technology instruction, while 10% disagreed. Again, 85% of the respondents agreed that Blackboard Learn provides sufficient tools and data for conducting assessments and evaluations in the context of Ijebu Ode, while others disagree. In the same vein, about 96% of the total respondents agreed that challenges exist when attempting to assess the outcomes of using Blackboard Learn for teaching educational technology concepts in Ijebu Ode, while others disagree. Also, 82% of the respondents agreed that lecturers have made improvements to their teaching methods based on the feedback and evaluation data gathered from Blackboard Learn.

Research Question 3

What are the benefits of Blackboard Learn in teaching educational technology concepts?

S/N	Questions	SA	%	A	%	D	%	SD	
1.	There are several advantages of using Blackboard Learn for teaching educational technology concepts in Ijebu Ode	64	62.7%	24	23.6%	10	9.8%	4	3.9%
2.	Blackboard Learn has improved the learning experience for both instructors and students in the context of educational technology instruction	70	68.6%	29	28.4%	4	3.9%	19	18.6%
3.	There has been an increase in student engagement and participation as a result of using Blackboard Learn	55	53.9%	36	35.3%	5	4.9%	6	5.9%
4.	Blackboard Learn has positively impacted the quality of educational technology content delivery	74	72.6%	19	18.6%	5	4.9%	4	3.9%
5.	Blackboard Learn has proven to be particularly beneficial for teaching educational technology concepts in Ijebu Ode	65	63.7%	26	25.5%	5	4.9%	6	5.9%
	Average Grand mean Score		**64.3%**		**26.2%**		**28.4%**		**7.6%**

According to the table 4.4 above, over 87% of respondents agrees on the fact that there are several advantages of using Blackboard Learn for teaching educational technology concepts in Ijebu Ode, while about 12% of the respondents disagreed. Also, about 90% of the respondents agreed that Blackboard Learn has improved the learning experience for both instructors and students in the context of educational technology instruction. 88% of the respondents agreed that there has been an increase in student engagement and participation as a result of using Blackboard Learn, while others disagreed. 90% of the respondents agreed that Blackboard Learn has

positively impacted the quality of educational technology content delivery, while only few disagreed. Lastly, 88 of the respondents agreed that Blackboard Learn has proven to be particularly beneficial for teaching educational technology concepts in Ijebu Ode, while 12% disagreed with this notion.

Research Question 4

What are the possible factors that can hinder the effective use of Blackboard Learn for teaching educational technology concepts in Ijebu Ode

Table 4.5: Responses of Respondents

S/N	Questions	SA	%	A	%	SD	%	D	%
1.	There are technical challenges when using Blackboard Learn for educational technology instruction in Ijebu Ode	70	68.6%	19	28.4%	4	3.9%	19	18.6%
2.	There are limitations in terms of internet connectivity or access to necessary hardware for using Blackboard Learn effectively in your educational institution	64	62.7%	24	23.6%	10	9.8%	4	3.9%
3.	Institutional or administrative factors hinder the adoption and utilization of Blackboard Learn for teaching educational technology concepts	72	70.6%	12	11.8%	10	9.8%	8	7.8%
4.	There is lack of sufficient support and training available for the effective use of Blackboard Learn in Ijebu Ode	84	82.4%	9	8.8%	5	4.9%	4	3.9%
5.	Cultural or pedagogical factors are other challenges in integrating Blackboard Learn into educational technology instruction	60	58.9%	19	18.6%	4	3.9%	19	18.6%
	Average Grand mean Score		**68.6%**		**18.2%**		**6.5%**		**10.6%**

Source: Field Survey 2023

According to the table 4.5 above, 89% of respondents are of the opinion pertaining to the fact that there are technical challenges when using Blackboard Learn for educational technology instruction in Ijebu Ode, while others disagree. Also, 88% of the respondents agreed that there are limitations in terms of internet connectivity or access to necessary hardware for using Blackboard Learn effectively in your educational institution, while others disagree. 84% of the respondents agreed that institutional or administrative factors hinder the adoption and utilization of Blackboard Learn for teaching educational technology concepts, while about 16% disagreed. Again, 90% of the respondents agreed that there is lack of sufficient support and training available for the effective use of Blackboard Learn in Ijebu Ode, while others disagree. Lastly, 76% of the respondents agreed that cultural or pedagogical factors are other challenges in integrating Blackboard Learn into educational technology instruction, while others disagree.

5. Discussion of Findings

This study examined the development and evaluation of Blackboard Learn for teaching selected educational technology concepts in Ijebu Ode metropolis. The findings from the analysis carried out in the study revealed the following:

Research question one showed that the lecturers are familiar with Blackboard Learn as a platform for teaching educational technology concepts in Ijebu Ode. However, it was revealed that there is lack of availability of Blackboard Learn in teaching educational technology in Ijebu Ode. This finding correlated with the study of Alturise (2020) who asserted that usage of Blackboard Learn for teaching has many unique opportunities as much as how it has peculiar challenges related to it.

Research question two showed that the effectiveness of using Blackboard Learn in teaching educational technology concepts in Ijebu Ode is significant, and that, there are different methods to evaluate the impact and success of using Blackboard Learn for educational technology instruction. This is in line with the study of Alyadumi and Falcioglu (2023) who opined that Blackboard learn will help students in facilitating the students' technical knowledge development, which is essential for building and accelerating digital literacy.

Research question three showed that there are several advantages of using Blackboard Learn for teaching educational technology concepts in Ijebu Ode, and that Blackboard Learn has improved the learning experience for both instructors and students in the context of educational technology instruction. This is consistent with the study Raza, Qazi, Qazi and Ahmed (2022) who opined that introducing Blackboard leand is a new dimension that has a lot of potentials and experience for higher education settings.

Research question four showed that there are several challenges associated with the adoption of Blackboard Learn for teaching in Nigeria. It revealed further that there are technical challenges when using Blackboard Learn for educational technology instruction in Ijebu Ode. It also revealed that there are limitations in terms of internet connectivity or access to necessary hardware for using Blackboard Learn effectively in your educational institution. However, these findings are related to the findings of Obuekwe & Eze (2017) who found out that challenges persists in promoting best practices in teaching and learning in Nigerian universities through effective e-Learning.

The result of research hypothesis one revealed that there is significant difference between Blackboard Learn for teaching and educational technology concepts in Ijebu Ode based on gender. Aremu and Michael (2014) found that male and female differ in perception not in the use of technology and there is no significance differences in acceptability and usability computer based learning package for electrical and electronic technology. This signifies that male and female differ in the way they perceive technology courses, male perceive it not much difficult but female perceive it as very difficult, this is the reason why they are not participating in most of the science and technology courses.

The research further tested hypothesis two in which the result of the finding initially revealed that, there was significant difference in the lecturers' use of Blackboard Learn for teaching educational technology concepts based on their various years of teaching experience. However, in line with this perception, Lecturers' years of experience determine those who could use the Blackboard Learn for teaching. Alexis and Erica (2018) found out that that the teachers can teach multiple learning tasks and leaners at the same time, through online presentation on the internet, within and outside classroom.

6. Conclusion

In conclusion, the research conducted in Ijebu Ode regarding the use of Blackboard Learn for teaching educational technology concepts has provided valuable insights into the landscape of technology-enhanced education in the region. The findings from this study shed light on various aspects of Blackboard Learn's implementation and its impact, as well as the associated challenges. Thus, the study established that lecturers in Ijebu Ode are familiar with Blackboard Learn as a platform for teaching educational technology concepts. However, a significant gap was identified concerning the availability of Blackboard Learn for teaching purposes. This underscores the need for increased access to this technology to harness its potential fully.

Consequently, it was confirmed that using Blackboard Learn for teaching educational technology concepts is indeed effective. Furthermore, the study identified multiple methods for evaluating the impact and success of Blackboard Learn in educational technology instruction. This suggests that educators in Ijebu Ode should adopt systematic assessment strategies to maximize the benefits of this platform.

7. Recommendations

Based on the finding and conclusions drawn, the following recommendation are put in place:

Increase Access to Blackboard Learn: To harness the benefits of Blackboard Learn, efforts should be made to increase its availability in educational institutions in Ijebu Ode. Educational authorities and institutions should invest in the necessary infrastructure and resources to ensure that lecturers and students have access to this platform.

Provide Comprehensive Training: Given the differences in experience levels among lecturers, institutions should offer comprehensive training programs for educators. This training should focus on not only the technical aspects of Blackboard Learn but also effective instructional design and pedagogical strategies for online education.

Implement Systematic Evaluation Methods: Institutions should establish systematic methods for evaluating the impact and effectiveness of Blackboard Learn. This could include regular assessments, surveys, and feedback mechanisms to continually improve the quality of online educational technology instruction.

Promote Inclusivity in Technology Courses: Recognizing the gender disparities in the perception of technology courses, educational institutions should actively work to promote inclusivity. Initiatives aimed at encouraging female students to participate in science and technology courses should be developed, and efforts should be made to create an inclusive and welcoming learning environment for all.

Address Technical Challenges and Infrastructure: To overcome the technical challenges and limitations in terms of internet connectivity and hardware access, institutions should collaborate with technology providers, government agencies, and funding bodies to improve the overall technology infrastructure. This might involve

improving internet connectivity in the region, ensuring the availability of necessary hardware, and offering technical support to address issues as they arise.

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