

**BUSINESS EDUCATORS' ATTITUDE TOWARDS THE USE OF
BLACKBOARD AND MOODLE LEARNING MANAGEMENT SYSTEMS (LMS)
IN TEACHING DURING COVID-19 PANDEMIC**

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Abstract

The paper examined business educators' attitude towards the use of Blackboard and Moodle Learning Management Systems (LMS) in teaching business education during Covid-19 Pandemic. Two research questions guided the study and two research hypotheses were tested at .05 level of significance. A descriptive survey design was employed in the study. The population comprised all 159 business educators in the seven public colleges of education in the zone. A 23item-statements questionnaire titled Business Educators' Attitude Towards the Use of Blackboard and Moodle in Teaching Business Education Questionnaire (BEATUBMTBEQ) was used to collect data for the study. The instrument was validated by three experts in business education. Pilot testing of the instrument yielded a reliability coefficient of .80 and .89 Cronbach's alpha for Blackboard and Moodle components respectively. Data collected for the study were analysed using IBM statistical package for social sciences (SPSS) version 23. In all, 148 questionnaires were duly completed and returned and was thus used for data analysis. Mean and Standard Deviations were used to answer the research questions while independent samples t-test was used to test the research hypotheses. Results showed that business educators have negative attitude towards the use of Blackboard and Moodle LMS in teaching. Furthermore, there was no significant difference in attitude towards use of Blackboard in teaching based on ownership of institution. Similarly, there was no significant difference in attitude towards use of Moodle according to gender. Based on the findings, conclusion was drawn and it was recommended among others that regular workshops and seminars be organized periodically to acquaint the business educators with development and emergence of new e-learning technologies.

Keywords: Business Educator; Attitude; Blackboard; Moodle; Learning Management System; Pandemic

Introduction

Coronavirus widely called covid-19 is used to refer to the illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China (Cennimo, 2021). With the outbreak of this virus, the World Health Organisation (WHO) declared it a global health emergency on January 30, 2020. As the virus continued to spread, on March 11, 2020, WHO went further to declare the virus a global pandemic. As a result of the contagious nature of the virus, the use of brick and wall classroom become dangerous as it can enhance rapid spread of the virus. This has brought to the forefront tools and methods to support continued learning with the closure of schools globally (Bourchrika, 2020). The author maintains that according to a brief by the World Bank, e-learning teaching methods should be adopted all over the world to ensure uninterrupted education activities at all levels.

Sequel to the above, the federal government of Nigeria on March 23, 2020 ordered the closure of all schools in the country to control the spread of the deadly virus. Pursuant to the above social and physical distancing recommended by experts in health matters as a measure to contain the spread of the virus was also adopted. As a result, there arose the need for a teaching method that does not endanger the lives of the teachers and the students by separating the teachers and the learners as well as learners from each other in time and space if learning must go on during that period. E-learning was therefore recommended and adopted for use during the pandemic in line with the covid-19 protocol. E-learning is a mode of learning that takes place electronically, most often where the teachers and the learners are separated from each other but connected through the Internet.

To ensure that teachers especially business educators adopt and use e-learning innovation in teaching, they should have a favourable attitude towards its use in the learning environment (Hun & Shimizu, 2022). Similarly, Onwuagboke and Singh (2016) pointed out that evidence from research also shows that successful implementation of innovative technologies in the classroom depends largely on the teachers' attitude towards technology. The concept of attitude is seen in psychology as an expression of favour or disfavour towards an attitude object, be it an event, person, place or thing. It can be defined as the way in which a person views and evaluates something or someone, a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person, or situation (Vargas-Sanchez et. al. 2016). This attitude can be a positive or negative evaluation of people, objects, events, activities, and ideas. In order to ensure the achievement of the objectives of the business education programmes during this period, Business educators are expected to have positive attitude towards the use of e-learning in teaching their courses. Another variable apart from attitude which is capable of affecting adoption of e-learning in the teaching and learning environment is gender.

Gender is a socially constructed definition of women and men determined by the conception of tasks functions and roles attributed to women and men in society and in public and private life. Gender has been attributed as a significant variable in explaining the technology acceptance and use behaviour of humans (Goswami & Dutta, 2016). Although gender differences have attracted attention in today's educational research and practice, however, a small number of studies have explored the gender differences in the use of technology in higher education (Zhou & Xu, 2007). Researchers have found

differences in ICT utilization according to gender (van Deursen & van Dijk 2015; Harreiter, et al. 2011) while others report no significant difference according to gender (Ganiyu, 2019; Ameen, et al. 2019; Olafare, et al. 2017; Nwankwoala, 2015; Suri & Sharma, 2013). Furthermore, Chiahah, et al. (2013) discovered that gender does not affect the utilization of e-learning facilities in tertiary institutions in South-East Nigeria. They argued that all the lecturers were exposed to the same environmental learning conditions when they were students regardless of gender. Another variable that can affect the attitude of business educators towards the use of e-learning in teaching business courses is the ownership of the institution.

Ownership of institution is yet another factor which has the likelihood of affecting the attitude of individual teachers towards the adoption and use of any innovative technology in teaching. The colleges of education in Nigeria are owned by two major different proprietors. They include: The federal government that runs the federal colleges of education and the state governments that run the state colleges of education. The disparity in funds available to run these institutions are most likely to affect ICT policies of these institutions and invariably affect the attitude of the business educators in these institutions towards e-learning adoption and use in teaching and learning. Although Serin and Bozdog (2020) reported no significant difference in attitude towards technology use according to school type, it is possible to find significant difference in attitude as a result of it. For the fact that the variables mentioned and discussed above have the likelihood of affecting the attitude of business educators towards the use of e-learning in teaching business courses in any learning environment, these variables have been selected for investigation in this study.

E-learning requires students to use electronic devices such as computers, tablets and smart phones—usually their own, although often students use institutional devices too. With e-learning, students theoretically can learn any time or place, as long as they have access to a device and a Wi-Fi or data connection. Learning management systems (LMS) are an effective way to facilitate e-learning as these platforms can encapsulate students' courses, assessments and grades. According to Polakowski (2020) a Learning Management System is an application designed for the administration, documentation, tracking, reporting, and delivery of educational courses, training programs, or learning and development programmes. E-learning courses can be delivered live, where students can digitally “raise their hands” to participate in the class. Alternatively, pre-recorded modules can guide students through the material. E-learning components such as gamification and online polling and discussions can also contribute to a positive interactive learning environment (Economic Times, 2021).

Generally, e-learning can be classified into two broad categories. These categories are namely;

- Synchronous systems define a "virtual classroom" where communication between distance learning players is in real-time using sound, video, or chat.
- Asynchronous systems where the student is not necessarily online with the teacher, he can work in offline mode and communicate at scheduled times or on-demand. The necessary and most used mode of communication in this kind of system is electronic mail (O'Neil in Ouadoud, et al. 2021).

These two categories of e-learning involve a pedagogical planning of instruction by the instructor to achieve a pre-planned learning outcome. There are situations where learning

takes place when a learner uses any of the search engines like google to obtain information from the internet. This however is not planned by any teacher or instructor but is part of continuous learning process.

There are many e-learning technologies/tools that can be employed in the teaching and learning environment. Most of these technologies can be open source and free as well as effective for organizing and presenting of learning materials to the learners with less training requirements. Some are however cost intensive requiring the management of the institution to commit huge finances to achieve the objectives of integrating e-learning into the institution's programme during the covid-19 pandemic. The LMS is the ideal technology designed to effectively facilitate e-learning as these platforms can encompass students' courses, assessments and grades. The LMSs include Blackboard Learn, Moodle, Google Classroom, Canvas, Edmodo, Sakai etc. The researchers selected two LMS for investigation to ascertain the attitude of business educators towards them during the covid-19 pandemic. They are Blackboard Learn and Moodle LMSs.

Blackboard Learn (initially called Blackboard Learning Management System) is a web-based application for online teaching, learning, community building, and knowledge sharing ('Blackboard Learn,' 2022). According to Imperial College London (2021) Blackboard Learn is a Virtual Learning Environment (VLE) used at many higher institutions of learning for e-learning purposes. Staff and students automatically have access to the learning management system. Blackboard is a learning management system (LMS), which is used not only as a repository of information, (course materials and course information) but also used as a tool for communication through emails, announcements, discussion boards and podcasts etc. Putka, (2020) described it as a highly customizable online learning application that allows users to host or take online courses.

The utilisation of Blackboard solely depends on the efficiency of the users. Users need to be able to utilise this educational technology competently to facilitate the learning, if not competently used, it will be counterproductive. Teachers can make use of Blackboard to do the following in an e-learning environment: Deliver courses online; communicate with students through online discussion, real-time chat and a virtual, interactive classroom and video conferencing; set and receive assignments, tests and surveys and finally track progress and manage grades of learners (Putka, 2020). The use of Blackboard is widespread in the United States of America with more than 70% of the U.S. colleges and universities utilizing it in teaching and learning (Bradford et. al. 2007).

Blackboard has many features and virtual learning tools that revolve around its core component. The teacher can post course contents include files, texts, pictures, audio and video in their course which can be organized using learning modules, folders or lesson plans (Putka, 2020; Gonzalez, 2023). The system offers several ways for learners and teachers to stay on track throughout their lesson. The teacher through the feature of announcements and calendars post announcements on changes to a syllabus, due dates for assignments, examination schedules etc. Blackboard Collaborate is another feature of Blackboard which is a video-conferencing feature which allows for virtual discussions either in group sessions or one-on-one meetings.

Moodle stands for Modular Object-Oriented Dynamic Learning Environment is a free software, a learning management system or a platform that provides custom learning environments for students (Christensson, 2018). It helps the various educators considerably in conceptualizing the various courses, course structures and curriculum thus facilitating

interaction with online students. This Learning Management System was developed by Martin Dougiamas and since its inception, its primary agenda has been to contribute suitably to the system of e-learning and facilitate online educations and attainment of online degrees.

Statistics reveal that about 14 million consumers are engaged in about 1.4 million courses propagated by this learning management system. As an e-learning platform, its features include: blogs, chats, database activities, glossaries, and support systems enabling the functioning in multiple languages, content management, regular examination and assessment (Hirux, 2023). There are many benefits that the business educator can get from using Moodle in e-learning. They include: Easy to customize (Crowder, 2022); good for sharing learning materials; makes managing access to learning materials easy; Enables easy updating of course content; automated assessment; managing work submissions; seamless communication with the learners and monitoring progress/reports. Despite the numerous advantages of the Blackboard and Moodle LMSs, there is no guarantee that business educators will use them in teaching or have favourable disposition towards using them in teaching. Another constraint to the use of Blackboard and Moodle is that they can be complicated to set up especially by teachers who are not technology savvy. It was against this backdrop that the researchers investigated the attitude of Business educators towards the use of these e-learning technologies during the Covid-19 pandemic.

Purpose of the Study

The purpose of this study was to:

1. ascertain the attitude of business educators towards the use of Blackboard LMS in teaching business education courses during the covid-19 pandemic in colleges of education in South-East Nigeria; and
2. ascertain the attitude of business educators towards the use of Moodle LMSs in teaching business education courses during the covid-19 pandemic in colleges of education in South-East Nigeria.

Research Questions.

The following research questions guided the study:

1. What is the attitude of business educators towards the use of Blackboard LMS in teaching Business Education courses in Colleges of Education in South-East Nigeria during the Covid-19 pandemic?
2. What is the attitudes of business educators towards the use of Moodle LMS in teaching Business Education courses in Colleges of Education in South-East Nigeria during the Covid-19 pandemic?

Research Hypotheses.

Two null hypotheses were tested at .05 level of significance.

1. There is no significant difference in the mean response of business educators in federal and state Colleges of Education on their attitude towards the use of Blackboard LMS for teaching Business education courses in colleges of education in South-East Nigeria.
2. There is no significant difference in the mean response of male and female business educators on their attitude towards the use of Moodle LMS for teaching business education courses in colleges of education in South-East Nigeria.

Methods

The researchers adopted descriptive survey design. This research design was selected because it fits the purpose of the study as the purpose of the study was to investigate the attitude of business educators towards the use of Blackboard and Moodle in teaching business education courses. The population of this study comprised 159 business educators in the business education departments in all the public colleges of education in the South-East Nigeria. The entire population was used as the population is manageable, hence census. A 13 item statements questionnaire titled Business Educators Attitude of Towards the Use of Blackboard and Moodle in Teaching Business Education Questionnaire (BEATUBMTBEQ) was used to collect data for the study. The instrument is a four-point scale of Strongly Agree, Agree, Disagree and Strongly Disagree weighted 4, 3, 2, and 1 respectively. To ensure validity of the instruments was given to three experts of business education to ensure both face validity and content validity. The instrument was pilot-tested in a college of education in the South-South Nigeria using a sample size of 20 business educators and a reliability coefficient of .80 Cronbach's alpha for the Blackboard cluster and .89 Cronbach's alpha for the Moodle cluster was yielded in SPSS using alpha model.

The researchers personally administered the research instruments on the respondents with the help of a research assistants. The researchers and the research assistants visited each of the colleges of education used for the study for this purpose and administered the instruments and collected responses on the spot. Subsequent visits were paid to those who could not complete theirs on the spot. In all, 148 copies of the instrument were returned and well filled out giving 93.1% return rate. Data collected were analysed in SPSS software version 23 and results presented in tables. Mean scores and standard deviations were used to answer the research questions while independent samples t-test was used to test the hypotheses at .05 level of significance. In answering the research questions, questionnaire items with mean score 2.5 and above were regarded as positive while those with mean score less than 2.5 were regarded as negative. In testing the hypotheses, when p-value is less than the significant value of .05, the researchers accepted the null hypotheses. On the other hand, if the p-value is greater than the significant value of .05, the null hypotheses was rejected.

Results

Research Question 1: What are the attitudes of business educators towards the use of Blackboard LMS in teaching business education courses in Colleges of Education in South-East Nigeria during Covid-19 pandemic?

Table 1: Business educators' mean rating on their attitudes towards the use of Blackboard LMS in teaching Business Education courses

S/n	Item Description	Mean	SD	Remarks
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1	I am aware of Blackboard Learn Learning Management System (LMS) as e-learning technology	1.35	.55	Negative
2	I think using Blackboard Learn in teaching will improve the quality of my work.	1.45	.53	“
3	I think that presenting course materials on Blackboard Learn platforms makes learning more efficient.	1.83	.63	“
4	I think it is easier to revise electronic educational materials on Blackboard Learn than printed material	1.77	.67	“
5	I believe that delivering a lecture through Blackboard Learn technology is not difficult.	1.70	.65	“
6	I feel that Blackboard Learn technology does not require expensive technical support.	1.63	.59	“
7	I would prefer to teach courses using Blackboard Learn rather than in the classroom or face-to-face.	1.71	.63	“
8	I feel that using Blackboard Learn will allow me to accomplish more work than would otherwise be possible.	1.62	.62	“
9	I feel that supporting learners in Blackboard Learn environment is not very difficult	2.05	.68	“
10	I feel that it will not be difficult for me to become skillful in the use of Blackboard Learn technology.	2.14	.68	“
11	I intend to spend more time learning how to use Blackboard Learn in teaching my subject	2.29	.72	“
12	I intend to use more of Blackboard Learn LMS in teaching my courses if available	2.03	.67	“
13	I intend to improve my students' competence in the use of Blackboard Learn LMS	2.01	.72	“
	Cumulative Mean	1.82		Negative

Result presented in Table 1 shows business educators' mean response on their attitude towards the use of Blackboard in teaching business education courses. All the 13 items received a mean response ranging from 1.35 to 2.29 which gave a cumulative mean response of 1.82. This shows that the respondents have negative attitude towards the use of Blackboard LMS in teaching business education courses. Furthermore, the Standard Deviation of the scores from the mean range from .53 to .72 which is an indication that the respondents were homogeneous in their mean ratings.

Research Question 2: What are the attitudes of business educators towards the use of Moodle in teaching Business Education courses in colleges of education in South-East Nigeria during Covid-19 pandemic?

Table 2: Business educators' mean rating on their attitudes towards the use of Moodle LMS in teaching Business Education courses

S/n	Item Description	Mean	SD	Remarks
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14	I am aware of Moodle Learning Management System(LMS) as e-learning technology	2.04	.63	Negative
15	I think using Moodle will improve the quality of my work.	2.05	.65	Negative
16	I think that presenting course materials on Moodle platform makes learning more efficient.	1.97	.59	Negative
17	I think it is easier to revise electronic educational materials on Moodle than printed material	2.03	.64	Negative
18	I believe that delivering a lecture through Moodle technology is not difficult.	2.03	.61	Negative
19	I feel that Moodle technology does not require expensive technical support.	2.07	.62	Negative
20	I would prefer to teach courses using Moodle rather than in the classroom or face-to-face.	1.93	.68	Negative
21	I feel that using Moodle will allow me to accomplish more work than would otherwise be possible.	2.07	.61	Negative
22	I feel that supporting learners in Moodle environment is not very difficult	1.99	.43	Negative
23	I feel that it will be not be difficult for me to become skillful in the use of Moodle technology	1.89	.54	Negative
24	I intend to spend more time learning how to use Moodle LMS in teaching my subject	1.89	.65	Negative
25	I intend to use more of Moodle LMS in teaching my courses if available	2.03	.64	Negative
26	I intend to improve my students' competence in the use of Moodle LMS	2.04	.46	Negative
Cumulative Mean		2.0		Negative

Result presented in Table 2 reveals the business educators' mean response on their attitude towards the use of Moodle in teaching business education courses. All the 13 items received a mean response ranging from 1.89 to 2.05 which gave a cumulative mean response of 2.0. A cumulative Mean response of the business educators of 2.10 is below the 2.5 benchmark for accepting their attitude as positive. This show that the business educators have negative attitude towards the use of Moodle LMS in teaching business education courses. The Standard Deviation of the scores from the mean range from .43 to .68 was also an indication that the respondents were homogeneous in their mean responses.

Hypothesis 1: There is no significant difference in the mean rating of business educators in federal and state colleges of education on their attitude towards the use of Blackboard for teaching business education courses in colleges of education in South-East Nigeria.

Table 3: Summary of t-test of significant mean difference on attitude towards Blackboard based on ownership of institution.

Attitude towards Blackboard Learn	N	Mean	SD	Df	P-value	Decision
Federal	117	23.58	2.70	146	.458	Not Significant
State	31	24.00	3.11			

Independent-samples t-test was conducted to compare the attitude towards Blackboard scores for business educators in federal and state owned colleges of education. The result of the test is as presented in Table 3. There was no significant difference in scores for business educators teaching in federal colleges of education ($F = 23.58$, $SD = 2.70$) and state colleges of education ($S = 24.00$, $SD = 3.11$; $t(146) = .774$, $p = .46$, two-tailed) in their attitude towards the use of Blackboard in teaching business education courses during Covid-19 pandemic. The inference was based on the p-value of .46 which is greater than the significant level of .05. Therefore, the null hypothesis was accepted.

Hypothesis 2: There is no significant difference in the mean rating of male and female Business educators on their attitude towards the use of Moodle for teaching business education courses in colleges of education in South-East Nigeria.
In independent-samples t-test was conducted to compare the attitude towards Moodle scores for male and female business educators in colleges of education.

Table 4: Summary of t-test of significant mean difference on overall attitude towards Moodle based on gender.

Attitude towards use of Moodle	N	Mean	SD	Df	P-value	Decision
Male	62	26.02	2.32	146	.924	Not Significant
Female	86	26.06	3.02			

Result presented in Table 4 show that there was no significant difference in mean scores for male Business Educators teaching in Colleges of Education ($M = 26.02$, $SD = 2.32$) and female Business Educators ($F = 26.06$, $SD = 3.02$; $t(146) = -.096$, $p = .92$, two-tailed) in their attitude towards the use of Moodle in teaching Business education courses during covid-19 pandemic. The inference was based on the p-value of .92 which is greater than the significant level of .05. Therefore, the null hypothesis was accepted.

Discussion of findings

Findings from the study revealed that Business educators in the area of study have a negative attitude towards the use of Blackboard LMS in teaching Business Education courses. This finding is at variance with Olaferi et al. (2017) who reported a positive attitude towards the use of ICT in teaching and learning. The result was also not in agreement with Abuloum and Khasawneh (2006) that reported an overall favourable students’ attitude towards use of Blackboard as e-learning tool. This finding however seem to be a confirmation of the findings of Ganiyu (2019) who discovered that the versatility level in e-learning of lecturers in colleges of education was low. This result lays credence to Edo (2016) who reported that academic staff in tertiary institutions in Rivers State show poor attitude towards e-learning. A look at the result is indicative of the fact that the Business Educators do not have adequate knowledge of the e-learning tool. Good knowledge of a technology plays a very vital role in attitude towards it and subsequent adoption and use in the learning environment. With negative attitude towards Blackboard, little wonder that there was no significant difference in mean ratings on attitude towards it by Business Educators in both Federal and State Colleges of education in the area of study.

Findings from the study revealed that Business educators in South-East Nigeria have a negative attitude towards the use of Moodle LMS in teaching Business Education courses. A great majority of the respondents have no knowledge of it as an e-learning technology. This finding is in agreement with Olafere et al. (2017) that discovered that there is low e-learning versatility among colleges of education lecturers. The finding was at variance with the findings of Salhab (2019) that revealed that faculty members had positive attitude towards use of Moodle in teaching. In the same vein, the t-test revealed no statistically significant difference in attitude towards Moodle as a result of gender of the Business educators. This finding is similar to Salhab (2019) that reported no difference in attitude to Moodle according to gender of the lecturers. This result is however at variance with the findings of Adesope and Ahiakwo (2016) that reported that lecturers who participated in their study showed positive attitude towards the use of Moodle in teaching.

Equally, the result was also at variance with the findings of Ekunola et al. (2022) who reported that colleges of education lecturers had a positive attitude towards e-learning with no difference in attitude according to gender. The result was also at variance with Fadel et al. (2019) that reported positive nursing lecturers' attitude towards use of Moodle in teaching and learning. The lack of cognitive knowledge or awareness of Moodle as e-learning tool discovered among Business educators may be responsible for the negative attitude towards it as exhibited by the respondents in their responses. This was noted by Adodail (2016) noted that when educators are familiar with a particular technology and its usage, they tend to show a positive attitude towards its use. This is further supported by Chen (2013) who maintain that awareness facilitates the adoption of new technologies.

Conclusion

From the findings of this study, it can be seen that Business educators have negative attitude towards Blackboard and Moodle e-learning technologies. Despite the need to adopt and use these e-learning technologies, the awareness of the technologies was not high hence the negative attitude towards them. In the midst of the Covid-19 pandemic which social distancing was one of the ways of reducing the spread of the virus, the use of e-learning technologies remains a must for the learning environment to safeguard the health of the teachers and the learners. In a world that has been highly digitalized, Business educators should be aware of the array of e-learning technologies they can use for instructional delivery. Knowledge of any e-learning technology precedes the development of positive attitude towards the technology and eventual utilization in the learning environment.

Recommendations

The following recommendations were made based on the findings and conclusion of the study:

1. Heads of Business Education departments in the colleges should as a matter of necessity embark on organising regular workshops and seminars on e-learning technologies as the technologies emerge.
2. Business educators should be ready to learn about new e-learning tools as well as old ones so as to discover the ones that will be most suitable for their subjects and individual preferences.

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