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Blended Learning System: College Staff Perception and Infrastructural Requirements in a Post Covid Era

Eboka, Andrew Okonji

Department of Computer Education

Federal College of Education (Technical), Asaba

&

Achi, Ndubisi Anthony

Department of Education

Federal College of Education (Technical), Asaba

&

Onyemenem, Sunday I.

Department of Computer Education

Federal College of Education (Technical), Asaba

ABSTRACT

The COVID-19 pandemic has altered the traditional educational landscape, compelling educational institutions to implement alternative teaching and learning methods. Blended learning, which integrates online and in-person instruction, has become a viable option. The need to incorporate Blended Learning Systems into the teaching and learning processes of our nation's higher institutions has become indispensable. The purpose of this study was to investigate the perceptions of staff members at the Federal College of Education (T) Asaba on the inculcation of a blended learning system as an alternative model in the teaching and learning as well as identifying the infrastructural requirements for its successful implementation. The researchers developed and administered the Blended Learning System Questionnaire (BLSQ) to collect data from a sample of seventy (70) staff. Data collected was analyzed using the mean and standard deviation. Despite the apparent infrastructural deficits, academic staff were well aware of the blended learning system and were equally willing to contribute their quota to support its full implementation. However, infrastructural deficits of laptops, Learning Management Systems, internet connectivity amongst other factors were identified. It was thus suggested that the government through its education funding agencies include the implementation of a blended learning system in their budget. It was further suggested government and other education funding agencies ameliorate posed by the identified infrastructural gaps.

Keywords: Blended learning system, Traditional learning system, Learning Management system, ICT, COVID-19.

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Introduction

The COVID-19 pandemic has highlighted the significance of incorporating technology into education in order to maintain continuity in teaching and learning during times of crisis. Blended learning, an instructional strategy that incorporates online and face-to-face components, has received considerable attention as an effective means of adapting to such situations. Understanding the attitudes of federal college staff members toward blended learning and identifying the infrastructure requirements for its implementation are essential for its successful implementation. This research seeks to address these aspects and provide educational policymakers and institutions with valuable insights. The use of Learning Management Systems (LMS) is not a new phenomenon; rather, it has been around for quite some time due to advancements in the field of educational technology; however, the recent surge in the adoption and spread of LMS has been unprecedented (Sayfouri, 2016). This is largely attributable to the global health crisis (COVID-19) that has ravaged countries across the globe, resulting in the new normal of social distancing, the use of face masks and hand sanitizers by ordinary citizens, and a variety of other health measures. El-Hussein and Cronje (2010) identify the evolution of handheld portable devices and wireless technology as a significant factor.

In recent years, numerous vendors have mass-produced LMS by modifying its features to satisfy the diverse needs of various users. E-Training System (ETS), Instructional Management System (IMS), Course Management System (CMS), and Virtual Learning System (VLS) are synonyms for "Learning Management Systems" (Kumar et al., 2011). They are all designed to provide alternative teaching and learning platforms for the dissemination of course content to students by instructors.

At the request of the Nigerian Minister of Education, tertiary institutions in the country have been tasked with migrating to online teaching and learning modes by creating course materials and content that will be remotely delivered to students over the internet using available learning platforms. This is due to the disruption of global economic and educational activities caused by the pandemic (Ahmad C. et al., 2020). Due to the presence of the necessary infrastructures and their intermittent use of this approach in the past, the developed nations of the world were able to easily switch to a blended learning approach (which is a combination of the formal or traditional mode of teaching with the use of learning management systems) in their academic activities (Watson & Watson, 2007). The case will not be simple, as Nigeria, a third-world

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nation, continues to struggle with constant electricity supply and limited internet bandwidth (Binitie et al., 2019).

With the slight decrease in the infection rate of the deadly COVID-19 virus in the country and the Ministry of Education's directive requiring all tertiary institutions to reopen their campuses to students while strictly adhering to the health guidelines issued by the Nigerian Centre for Disease Control (NCDC), it is anticipated that all institutions will reopen.

Statement of the problem

The spread of Corona Virus disease has altered many aspects of society, including instruction and learning methods. Since the facilitating environment is present in developed nations, it was simple for them to continue utilizing online education. As a third-world nation, Nigeria faces many evident obstacles in adopting LMS like its counterpart. This paper aims to determine the perceptions of college professors regarding the combination of Learning Management Systems (LMS) with traditional modes of teaching and learning (commonly known as blended learning).

Purpose of the study

This study aims to examine lecture perception in the context of Learning Management Systems (LMS) and traditional teaching and learning methods (commonly referred to as blended learning). Specifically, the study investigates:

a. The degree to which lecturers are familiar with the concept of Blended Learning System.
b. The extent to which they are aware of the obstacles that may hinder its implementation.
c. The degree to which they are willing to personally commit to its implementation despite the actual and perceived limitations.

Research questions

a. How familiar are the participants with the notion of Blended Learning System?
b. To what extent are they aware of the obstacles that could impede its campus implementation? o
c. To what extent are they willing to personally and collectively commit to its implementation regardless of its actual and perceived limitations?

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Area of the study

The research was conducted at the Federal College of Education (Technical) located in Oshimilli South Local Government Area of Delta State.

Methodology

The research employed a descriptive survey design. The investigation was conducted in the Oshimili South Local Government Area.

The population is comprised of professors from all departments at the Federal College of Education (T) in Asaba, Delta State.

The lecturers were selected using a simple random sampling method because it provided the initial opportunity for equal representation and statistics across all departments, as well as the opportunity for departments to be selected for the study. The research utilized seventy (70) lecturers in total.

The online survey instrument used is a questionnaire devised by the researchers after a thorough review of relevant literature and scales used in various educational contexts, guided by the study's theoretical foundation. The first section concentrates on demographic information about the instructors, such as gender, department, course taught, etc. The second section consists of 12 questions regarding participant awareness of the blended learning system, their knowledge of the obstacles that may impede its implementation on campus, and their willingness to commit personally regardless of real and perceived limitations. The response format and nominal values for Parts 1, 2, and 3 are as follows: Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). The category "Strongly Disagree" refers to a mean score of 2.49 or less, while a mean score of 2.5 or higher represents "Strongly Agree." All negatively phrased items were reversed for data analysis so that a higher number on the Likert scale would represent positive attitudes.

The researchers constructed the questionnaire. The face and content validity of this instrument was evaluated by sending it to three experts in the field of ICT in education from three distinct State institutions. The instrument was critiqued constructively. Some corrections were made prior to administration in response to their criticism and suggestions.

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The researchers disseminated the link to the survey via WhatsApp and email, and then collected it. Seventy-eight (68) questionnaires were returned with complete responses. In answering the research queries, means and standard deviations were used. The decision rule stated that a mean cutoff point of 2.50 or higher indicated acceptance, while 2.49 or lower indicated rejection.

Data analysis and Research Presentation

Table 1: Mean and standard deviation of Participants' extent of awareness **of the concept of Blended Learning System**

S/N	ITEM	$\bar{X}$	STDEV	REMARK
1	I have heard the a blended learning system before now	3.05	0.77	Strongly Agree
2	I am relatively knowledgeable of what it is and how it works	2.72	0.81	Strongly Agree
3	I have experienced its use in a training program I have undergone or undergoing	2.92	0.83	Strongly Agree
4	With a blended approach, students can come online at any time to view lectures, lecture notes, videos, assignments etc.	3.26	0.75	Strongly Agree
5	I am abreast with the basic requirements that will allow it to function	2.83	0.92	Strongly Agree
	Grand Mean & Standard Deviation	**3.16**	**0.07**	

Table 1 shows the results associated with extent of Participants' awareness **of the concept of Blended Learning System**, where they were invited to rate their level of awareness on a Likert scale of 1-4, from 'strongly disagree' (1) to 'strongly agree' (4).

It can be observed that participants strongly agreed that they are aware of blended learning system, which is represented by overall grand mean of 3.16 and standard deviation of 0.07.
It appears virtually all the teachers are not aware of the use of interactive white board in teaching.

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Table 2: Mean and standard deviation of the extent to which **participants' are abreast of some of the challenges that could impede its implementation on campus**.

S/N	ITEM	$\bar{X}$	STDEV	REMARK
1	The absence of steady power supply on campus does not make it practically impossible to implement	2.43	1.01	Strongly Disagree
2	The absence of a Campus Wi-Fi does not essentially make it impossible to implement	2.37	0.94	Strongly Disagree
3	Mobile devices such as laptops, tablets, smartphones etc. with internet capabilities can serve as an alternate mode the absence of a campus Wi-Fi.	3.26	0.53	Strongly Agree
	Grand Mean & Standard Deviation	**2.69**	**0.26**	

Though the Grand mean Shows strongly agree of 2.69 and 0.26 Standard deviation, 2 out of the three items shows "strongly disagree". The participants strongly disagree that "the absence of steady power supply on campus does not make blended learning system practically impossible to implement'. Also the participants strongly disagree that "the absence of a Campus Wi-Fi does not essentially make it impossible to implement".

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Table 3: Mean and standard deviation of the extent to which **Participants' are willing to commit personally to implement it irrespective of the real and perceived limitations**.

S/N	ITEM	$\bar{X}$	STDEV	REMARK
1	I will be willing to purchase data bundles intermittently to ensure the full implementation of a blended learning system in the college given the present global realities	2.74	0.64	Strongly Agree
2	I will encourage my other colleagues to implement a blended learning system irrespectively of some infrastructural deficiencies	3.09	0.60	Strongly Agree
3	I will also encourage students to key into this new normal for their development and not wait for the government and/or the college community to provide every needed infrastructure.	3.15	0.59	Strongly Agree
4	I will be ready to engage with private firms around the vicinity for support in terms of funds or equipment.	2.6	0.68	Strongly Agree
	Grand Mean & Standard Deviation	**2.90**	**0.04**	

From table 3, participants' responses showed that the participants' are willing to commit personally to implement blended learning system irrespective of the real and perceived limitations. It has a grand mean of 2.90 and standard deviation of 0.04.

Discussion of Results

In response to the first research question, which inquired about the level of participants' familiarity with the concept of Blended Learning System, it was determined that college instructors are very familiar with the concept. The results of the five (5) questions indicate that the mean scores exceed the decision rule of 2.50. Sayfouri N. (2016) opined that teachers have a high level of awareness of the various ICT-based teaching aids, including online instruction, despite their low level of usage.

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Table 2 demonstrates that professors are aware of the obstacles that could impede the campus's implementation of an integrated learning system. Items 6 and 7, which inquire whether the absence of power and campus Wi-Fi will impact their use of blended learning systems in the classroom, fall below the 2.50 benchmark deemed acceptable. That is to say, the professors believe that without a steady power supply and campus Wi-Fi, they will be unable to implement a blended learning system. This finding is supported by the research findings of (Anekwe, 2017), which indicate that power supply and high-speed internet connectivity are the most important factors to consider when implementing various online teaching methods.

The third research question seeks to determine the extent to which lecturers are willing to commit individually and collectively to the implementation of a blended learning system, despite actual and perceived limitations. Their mean response score exceeds the minimum acceptable standard of 2.5. This indicates that college professors are willing to spend their own money on data bundles and other necessities for the successful implementation of the system. This demonstrates the instructors' willingness and readiness to embrace the new norm. This finding is consistent with that of Gonzales (2018), who states that teachers are willing to embrace the incorporation of ICT tools in the classroom if they are provided with training and the necessary tools.

Conclusion

Since the outbreak of the corona virus disease (COVID 19), the blended learning system has become the norm in many regions of Nigeria. Many schools, particularly large private schools, have adopted the online learning system to ensure the continuation of instruction and learning. Numerous government-owned institutions, such as federal colleges, expect the government to provide the essential infrastructure for the implementation of a blended learning system. This study demonstrates that lecturers are willing to contribute their own quota to guarantee its implementation, although there are some areas in which they will be limited, such as the provision of electricity and Wi-Fi.

Recommendations

In spite of certain infrastructural deficiencies and global realities, it is evident from the provided data that the majority of respondents have a positive attitude and are willing to support the implementation of a blended learning system in the institution. The respondents firmly agree with statements such as being willing to purchase data bundles on an ad hoc basis, encouraging

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coworkers and students to accept the new norm, and seeking assistance from private companies for funds or equipment.

On the basis of these findings, it is recommended that the College contemplate implementing a blended learning system. Positive responses from respondents indicate that a supportive environment exists for such an initiative. It is essential to capitalize on this willingness and motivation to establish a productive integrated learning environment.

In the absence of campus Wi-Fi, it may be necessary to investigate alternative options to address the infrastructure deficiencies, such as the use of mobile devices with internet access. This can help guarantee that students have access to instructional materials and resources. Additionally, encouraging students and faculty members to be proactive in pursuing solutions, as opposed to relying solely on the government or college community for all infrastructure needs, can aid in accelerating the implementation process.

Additionally, it is recommended to establish collaborations and partnerships with nearby private companies. These partnerships can provide additional funding or equipment, which can significantly improve the blended learning system's implementation and long-term viability.

Throughout the implementation process, regular communication and engagement with all stakeholders, including faculty, staff, students, and pertinent private companies, will be essential. This will assist in addressing any concerns, provide the required training and support, and ensure a seamless transition to the blended learning model.

Overall, based on the positive attitudes and willingness expressed by respondents, the recommendation is to proceed with the implementation of a blended learning system at the college, taking into account the identified recommendations and strategies to address infrastructure deficiencies and ensure successful implementation.

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