IMPACT OF BLENDED LEARNING APPROACH ON SECONDARY SCHOOL STUDENTS' ACADEMIC PERFORMANCE IN KWARA STATE

BY

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Abstract

This study investigated the impact of blended learning approach on secondary school students' academic performance in Kwara State. The research design adopted for the study was a descriptive research design. The population for the study comprised all the 125,673 students in the 363 private senior secondary schools in Kwara State. Random sampling technique was used to select six local government areas (LGAs) out of the 16 while 10 schools were randomly selected from each of the LGAs. Proportionate sampling technique was used to select 378 students out of the 25,505 in the sampled schools. A self-designed instrument tagged "Blended Learning Questionnaire" BLQ" and "Students' Academic Performance Profoma" SAPP were used to elicit relevant data. The instrument was validated and the result of its reliability test done through the use of Cronbach' Alpha was 0.79. Percentage was used to answer research questions while Pearson product-moment correlation was used to test hypothesis. The major finding indicated that blended learning had a significant impact on secondary school students' academic performance in Kwara State. From the findings of the study, it was concluded that the blended learning approaches adopted in instructional delivery in secondary schools in Kwara State were effective. Therefore, it was recommended, among others, that the school managements should sustain and improve on the use of blended learning system in order to equip the students with relevant and contemporary knowledge needed to engage successfully engage with technology and consequently enhance their academic performance.

Keywords: Impact, Blended Learning, Secondary School, Student, Academic Performance

Introduction

The advent of Corona Virus Disease (COVID-19) in the late 2019 called for massive adoption of online learning systems in education across the world, including Nigeria. As there was no continuous rise in the spread and death from the disease, no option for many countries than complete closure of the economy, including educational institutions (United Nations Educational, Scientific and Cultural Organization, 2020). Over 188 out of 195 countries implemented nationwide school closures and restricted education facilities in the second quarter of 2020. It is estimated that more than 1,576,021,858, which constitute about 91.3% of all learners across the globe have been affected by the closure of educational institutions (UNESCO, 2020). Like many other countries in the world, all schools in Nigeria were closed from March 27, 2020, as one of the Federal Government's measures to limit the spread of the disease. This translated to a contextualized state-wide school closure across the 36 states in the country. In response, different states' Ministries of Education released various modalities for radio and television, schooling and internet-based learning for students in public primary and secondary schools. At the same time, some higher institutions of learning also introduced e-learning systems. It is of significant concern that education at all levels has been threatened since the emergence of the novel coronavirus disease 2019 (COVID-19). This has sent a powerful signal to the education administrators as to what would happen to the education system in case of future occurrences. Although, timely responses have been in place in most countries, such as Australia, Italy, Germany, and Hong Kong, concerning online learning before the pandemic. However, esearchers have shown that the pandemic has posed

significant challenges to education in such countries (Crawford et al., 2020). Hence, it is expected that the pandemic would have a more adverse effect on schools that had no online learning (e-learning) platforms before the pandemic (Kachra & Brown, 2019), Thus, blended learning was initiated to the system of education in Nigeria in recent time to ensure access to learning at both online and offline. The blended learning approach is today considered as the "new normal" mode of learning (Norberg et al., 2020).

According to Masie (2016), blended learning is the mixture of e-learning and classroom learning. In other words, blended learning is a learning approach that combines an e-learning system with traditional face-to-face classroom teaching and learning. E-learning connotes electronic learning. It entails the use of electronic technology to deliver education and training applications, monitor learners' performance, and report learners' progress. According to lgbokwe et al. (2020), e-learning is a form of distance learning that requires the use of varieties of technology and the internet to communicate, share ideas, access information, and share knowledge from instructors with learners. Similarly, Hedge and Hayward (2019) posited that e-learning is an innovative approach for delivering electronically mediated, well-designed, learner-centered, and interactive learning environments to anyone, anyplace, anytime by utilizing the internet and digital technologies in concern with instructional design guidelines. It is all about learning with the use of computers. In this computer age, learning with the use of a computer is simply an online way of acquiring knowledge through the internet or the offline CD-ROM.

The process and applications of e-learning technology include computer-based learning, web-based learning, virtual learning, blended learning, hybrid models, internet learning, networked learning, tele-learning, computer-assisted learning, and online classroom and digital collaboration where content is delivered via the internet, intranet/extranet, audio and or video tapes, satellite TV and CD-ROM (Ukoha, 2017). The introduction of e-learning encourages the delivery of educational content through an informative process that includes internet, audio/visual or video tape, satellite broadcast, interactive CDs, and computer-based learning activities, as well as local intranet/extranet which daily augment the learning procedures (Ajegbomogun et al., 2016). According to Tijani, Abdullahi and Omosidi (2022), e-learning is categorised into two forms; synchronous and asynchronous. Synchronous involves the interaction of participants with an instructor via the Web in real-time. For example, VCRs or virtual classrooms that are nothing else but real classrooms online. Participants interact with each other and instructors through instant messaging, chat, audio, and video conferencing, and all the sessions can be recorded and played back. Asynchronous, on the other hand, allows the participants to complete the WBT (Web-based-training) at their own pace, without live interaction with the instructor. Basically, it is information that is accessible on a self-help. Consequently, in either of the forms, learning resources are shared with the intending students for learning purposes. While the former allows for immediate feedback as much as possible, the latter may not necessarily allow for immediate feedback. However, traditional learning remains intact under the blended learning approach as it complements the online learning system by serving dual roles of providing feedback and further instructions.

Subsequently, the effect of blended learning on students' performance has been researched in different contexts, e.g., higher education, adult education, and workplace training. The results have shown a positive impact of blended learning (Larson & Sung, 2009; López-Pérez, Pérez-López, &RodriguezAriza, 2011), but questions remain unanswered as to the impact of blended learning on students' performance in secondary education, particularly, methods of end-of-learning evaluation. Answers to this question bear research and practical significance. First, there is an imbalance observed in studies on the effect of blended Learning across disciplines, which results in the variation of the blended learning effect. Therefore, instructors and institutions may hesitate to introduce blended learning, given the unknown effect on their respective majors. Thus, there is a need to investigate the impact of the blended learning approach on secondary school students' academic performance in Kwara State in order to ensure the effective application of the system. Therefore, the management of e-learning resources is the first to reckon with for success or otherwise when it comes to online learning platforms. Management in this regard refers to the

availability, accessibility, and timing. It is against this background that this study investigated the impact of blended learning approach on secondary school students' academic performance in Kwara State, Nigeria.

Statement of the Problem

Over the years, there has been a consistent decline in the academic performance of secondary school students in external examinations such as the West African Senior School Certificate Examination (WASSCE) and the National Examinations Council (NECO). On this, there has been concern from stakeholders on how to ensure effective teaching and learning in order to bring about desirable changes. Thus, this led to the introduction of technology to various educational institutions, including secondary schools in order to equip students with modern way of learning. However, this familiarity with technology does not necessarily translate into a desire or ability to learn using non-conventional methods (Li &Ranieri, 2010).

Notwithstanding, concerns about students' ICT abilities or learning styles are generally accepted that secondary education students expect to make use of basic technology as part of their learning experience in the school (Bradwell, 2009). However, many institutions have approached the implementation of blended learning cautiously, due to the academic time investment needed, the perceived lack of pedagogic evidence of effectiveness (Tang & Austin, 2009), perceived negative impact on student attendance at face to face teaching sessions and lack of experience with the tools available or insufficient resources (Garrison & Kanuka, 2014). However, there is growing evidence that well-designed and appropriately implemented institutional and departmental blended learning strategies can enrich the student experience and enhance academic performance (Sharpe et al., 2006). Thus, it is imperative to carry out this study to provide empirical evidence on the effect of the blended learning approach on secondary school students' academic performance in Kwara State, Nigeria.

Purpose of the Study

The purposes of the study were to:

i. find out the learning platforms combined with traditional face-to-face learning system in secondary schools in Kwara State;
ii. examine the e-learning resources adopted in instructional delivery in blended learning system in secondary schools in Kwara State; and
iii. investigate the impact of blended learning system on secondary school students' academic performance in Kwara State.

Research Questions

The following research questions were raised to guide the study:

i. What are the e-learning platforms combined with traditional face-to-face learning system in secondary schools in Kwara State
ii. What are the e-learning resources adopted in instructional delivery in blended learning system in secondary schools in Kwara State?
iii. Does blended learning system have impact on secondary school students' academic performance in Kwara State?

Research Hypothesis

Hypothesis one: There is no significant impact of blended learning approach on secondary school students' academic performance in Kwara State.

Literature Review

Connectivism theory is an alternative theory of learning in the digital age propounded by George Siemens. According to Siemens, connectivism is the integration of principles explored by chaos, network, complexity and self-organization theories. The theory postulates that learning is a process that occurs within nebulous environments of shifting core elements -not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves, is focused on connecting specialized information sets (e-learning resources), and the connections that enable us to learn more are more important than our current state of knowing. The connectivism theory of learning was founded on the principle that: Knowledge that resides in a database needs to be connected with the right people in the right context to be classified as learning. In relation to this study, it implies that e-learning resources in the forms of e-books, audio tapes, videotapes, and computer-mediated learning (virtual learning) available in the database of the school need to be connected to the students using a suitable channel for learning to compliment the traditional face-to-face learning for effective. In other words, information flow within an institution is an important element in learning.

The electronic evolution i.e. Information and Communication Technology (ICT) has brought about a rapid expansion in the 21st century's classroom. ICT use in education is beginning to take various forms starting from education to the use of the internet and finally the innovative technique which is a new trend has emerged as blended learning approach. This new trend depends on technology to provide learners with quality educational content. Notable scholars recognize the importance of making adjustments in the curriculum to keep up with the age of ICT. However, there is no agreement on the type and amount of the required modification needed. Blended learning according Graham (2016), is a combination of traditional face-to-face instruction and online learning. Similalry, Freihat (2014) asserted that the blended learning approach is an innovative trend in education that is used in the modern classroom for teaching and learning; it can be described as an educational approach/technique in which more than one channel is used in imparting knowledge, wisdom and experience to learners the classroom. This approach, according to the author, combines the benefits of e-learning and the benefits of conventional teaching methods in the 21st-century classroom. The integration of the two approaches, i.e., e-learning and face-to-face learning, has enormous benefits in the modern classroom. In the opinion of Thorne (2003), blended learning is the integration between e-learning and face-to-face instruction.

Bended learning allows for more interactive and reflective knowledge construction. Multi-format resources, archived discussions, instructors' changing roles as facilitators, and more time scaffolding for discussion and reflection in this learning mode have been augmented by technologies (Mebane et al., 2008). As a learning approach, Köse (2010) proposes that blended learning is a learning approach that contains different types of education techniques and technologies. Therefore, the nature of blended learning greatly depends on what it is designed tp achieve. According to Graham and Robinson (2007), if the goal is to increase access and convenience, the use of technologies merely helps to alleviate space and time barriers. However, when student interactiveness and improved pedagogy are the focus, it is expected that a student-centred approach coupled with frequent online interaction and feedback is more evident than just using the online learning platform as a communication channel. Despite the differences in blended learning conceptualization, researchers in the field take blended learning as an innovative approach to optimizing student learning (Köse, 2010). On the one hand, the approach provides students with a more efficient learning environment where they can have more interactions and learning support with the availability of online learning facilities (Köse, 2010). On the other hand, it is believed that blended learning can enhance the quality of face-to-face meetings (seat time) provided that students can benefit from the online learning activities and resources (Köse, 2010).

Some studies have been conducted to investigate the effect vis-à-vis the relationship between the blended learning approach and students' academic performance in various levels of education as it applicable. Ceylan and Kesici

(2017) discovered in their study that the experimental group who has studied in blended learning environment is academically more successful than the control group who has studied in present teaching environments. Similarly, most studies conducted by Sarıtepeci (2012), Yılmaz (2011), and Demirkol (2012) all found that a blended learning environment increases the academic achievement averages. However, there have been studies in which there are opposing views about if the blended learning environment increases academic achievement (Akkoyunlu & Soylu, 2008; Delialioğlu & Yıldırım, 2007; Demirer, 2009). From these controversial notions, stakeholders in education believe that the preparation of young learners and arming them with the basic ICT in education and use is the most appropriate way of rehabilitating learners in order to cope with the changing world. The change in our world left viewpoint in our modern societies with no choice but to adapt the information age because this innovation has become necessary for continued survival and progress (Bani, 2011). Thus, the need to carry out this study to find out if significant effect exists between the blended learning approach and secondary school students' academic performance.

Methodology

The research design adopted for this study is descriptive design of correlational type. The population for this study comprised all the senior secondary schools in Kwara State while the target population are all the 125,673 students in the 363 private senior secondary schools in Kwara State (Kwara State Ministry of Education and Human Capital Development, 2024). Random sampling technique was used to select 6(42%) local government areas out of the 16 in the state. Random sampling technique was used to select 10 schools from each local government to make a total of 60. Proportionate sampling technique was used to select 378 students out of the 25,505 in the sampled schools, using Krejcie and Morgan (1970) table for sample size determination. A self-designed instrument tagged "Blended Learning Questionnaire" BLQ" and "Students' Academic Performance Profoma" SAPP were used to elicit relevant data. The instrument was validated and the result of its reliability test done through the use of Cronbach' Alpha was 0.79. Percentage was used to answer the research questions while Pearson product-moment correlation was used to test the hypothesis formulated at 0.05 level of significance.

Presentation of results and discussion

Research Question One: what are the e-learning platforms combined with traditional face-to-face learning system in secondary schools in Kwara State?

Table 1

E-learning Platforms Combined with Traditional Face-to-face Learning System

S/N	Construct	Percentage	Rank
1.	Google classroom	33%	1st
2.	Zoom	22%	3rd
3.	Telegram	15%	4rd
4.	Moodle	6%	5th
5	Whatsapp	24%	2nd

Table 1 shows the e-learning platforms combined with traditional face-to-face learning platforms system in secondary schools in Kwara State. The finding revealed that Google Classroom (33%) is the most used platform in blended learning approach for instructional delivery in secondary schools in Kwara State; followed by Whatsapp

(24%), 2nd; then Zoom with 22%, 3rd while telegram and Moodle with 15% and 6% respectively were 4th and 5th platform used in the schools.

Research Question Two: what are the e-learning resources adopted in instructional delivery in blended learning system in secondary schools in Kwara State?

Table 2

E-learning Resources Adopted in Instructional Delivery in Blended Learning System

S/N	Construct	Percentage	Rank
1.	Audio	23%	3rd
2.	Video	26%	2nd
3.	E-book	36%	1st
4.	Games	15%	4th

Table 2 shows the e-learning resources adopted in instructional delivery in blended learning system in secondary schools in Kwara State. The result indicated that e-book (36%) was the most used resources in the blended learning for instructional delivery in secondary schools in Kwara State.

Hypothesis one: *There is no significant impact of blended learning approach on secondary school students' academic performance in Kwara State.*

Table 3

Blended Learning Approach and Students' Academic Performance

Variables	Mean	r	sig (2tailed)	Decision
Blended learning approach	2.85			
		.068	.000	**Ho_1 Rejected**
Students' academic performance	2.78			

***significant, P<0.05**

Table 3 shows that the Pearson correlation analysis value yielded 0.068 which is significant with p-value .000 less than 0.05 level of significance. Hence, the null hypothesis which states that there is no significant impact of blended learning approach on students' academic performance in secondary schools in Kwara State was rejected. This implies that there is positive significant impact of blended learning approach on students' academic performance in secondary schools in Kwara State.

Discussion

The finding of the study revealed that Google Classroom was the most used platform in blended learning approach for instructional delivery in secondary schools in Kwara State. This finding agrees with the finding of Demirkol (2012) that Google Classroom is the most used platform in blended learning approach in secondary schools in

Monrovia, Liberia. The finding corroborates the finding of Dada (2020) that Google Classroom is the most platform for blended learning in private secondary schools in Rivers State, Nigeria.

The study found that result indicated that e-book was the most used resources in the blended learning for instructional delivery in secondary schools in Kwara State. This study supports the finding of James (2021) that e-book is the most resource used for instructional delivery in the blended learning approach in private secondary schools in Lagos State, Nigeria. This finding is in tandem with the finding of Demirkol (2012) that e-book is the online resource most used to support blended learning in secondary schools in Monrovia, Liberia.

The finding of the study revealed that was a positive significant impact of blended learning approach on secondary school students' academic performance in Kwara State. This result is in line with the finding of Ceylan and Kesici (2017) which revealed that the experimental group who studied in blended learning environment academically performed than the control group who studied in traditional learning environment. Also, the finding corroborated the finding of Satritepeci (2012) and Demirkol (2012) that blending learning environment had a significant impact on students' academic performance.

Conclusion

The study concluded that Google Classroom was the most blended learning approach used for instructional delivery, e-book was the most used resource in the blended learning for instructional delivery, and there was a positive significant impact of blended learning approach on secondary school students' academic performance in Kwara State

Recommendations

The study recommended that:

i. the management of private secondary schools in Kwara State should always charge teachers to continue to use Google Classroom and also intensify effort in the use of other platforms that can assist in the use of blended learning approach to impart knowledge to students
ii. teachers should not relent in the use of e-book for instructional delivery and they should also intensify efforts in the use of other online resources to to support their teaching; and
iii. school managements should sustain and improve on the use of blended learning system in order to equip the students with relevant and contemporary knowledge needed to engage successfully engage with technology and consequently enhance their academic performance.

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