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BENEFITS AND CHALLENGES OF BLENDED LEARNING: PERSPECTIVES OF PRE-SERVICE TEACHERS OF PRIMARY EDUCATION IN ILORIN, NIGERIA

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Abstract: *The study investigated the perceived benefits and challenges of blended learning among pre-service teachers of primary education in Ilorin, Nigeria. The study adopted descriptive survey research design. The target population consists of all pre-service teachers of primary education in tertiary institutions in Ilorin, Nigeria, while the study sample consist of 400 pre-service teachers randomly selected across four tertiary institutions. Researcher self-constructed questionnaire titled: "Benefits and Challenges of Blended Learning Questionnaire" (BCBLQ) was used for data collection. The instrument was validated by two experts in Teacher Education and Educational Test and Measurement, while Cronbach Alpha reliability method used yielded an index of 0.83. Mean and standard deviation was used to answer the research questions, while Multivariate Analysis of Variance was used to test the hypothesis formulated. The findings revealed that blended learning is beneficial to teaching and learning as it promotes collaborative learning and improves learners' engagement. It was also revealed that lack of suitable infrastructure and access to technology is among the constraints for the successful implementation of blended learning. It was recommended that school administrators should encourage the integration of blended learning to foster effective teaching and learning.*

Key words: *blended learning; online lesson delivery; face-to-face lesson delivery; pre-service teachers; teachers education.*

Introduction

Education as a development agent, is valued by all nations of the world because it has brought total liberation to man. It has transformed man from ignorance and misery to knowledge and happiness. It has made man useful to himself, his generation and beyond. Education helps the

individual to develop physically, mentally, morally, spiritually, and emotionally by providing suitable environment, teaching him new knowledge, attitudes and skills that will enable him to be useful to himself and his society. Education at this level strengthens the learner's feet to climb the educational ladder to the zenith of academic attainment if a good foundation is laid.

The Federal Republic of Nigeria (2004), stated that primary education refers to education given to children aged 6 to 11 plus in primary schools and that the primary level is the key to the success or failure of the whole system since the rest of the education system is built upon it. This statement confirms the fact that the primary level of education is most crucial to the success of other levels, hence the need for the stakeholders to do everything possible to lay a solid foundation for its sustainability. Sen (2010) buttressed this by affirming that primary education is the foundation for a child's learning on which every other level of learning depends. In the light of these objectives, this paper examines how the primary school may be seen and rightly recognized as foundation of education in the society. Furthermore, Olaniyan and Obadara (2008) also submitted that apart from the home as the first agent of socialization, primary school is the first that introduces formal education or literacy to the children. In other words, primary school education is a foundation upon which all other levels of education are built. Armstrong (2008) affirmed that certainly, primary and secondary educations are both important elements of the sector, not least because they feed directly the quality of higher levels of education.

The concept of blended learning has been around for a long time, but its terminology was not firmly established until around the beginning of the 21st century. Blended learning can be defined as learning systems that combine face-to-face instruction with computer mediated instruction (Graham et al., 2013). It involves a combination of conventional face-to-face and online technology-based learning (Wang, 2011). The combination may involves mixing various event-based activities such as face-to-face classroom, live e-learning, self-paced learning, synchronous online conference and training, or asynchronous self-pace learning (Graham et al., 2013). Blended learning, also known as technology-mediated instruction, web-enhanced instruction, or mixed-mode instruction, is an approach to education that combines online educational materials and opportunities for interaction online with physical place-based classroom methods. Blended learning requires the physical presence of both teacher and student, with some elements of student control over time, place, path, or pace. While students still attend brick-and-mortar schools with a teacher present, face-to-face classroom practices are combined with computer-mediated activities regarding

content and delivery. It is also used in professional development and training settings.

Additionally, a meta-analysis by Poon (2013) that historically looked back at a comprehensive review of evidence-based research studies around blended learning, found commonalities in defining that blended learning was considered a combination of physical (face-to-face) modes of instruction with online modes of learning, drawing on technology-mediated instruction, where all participants in the learning process are separated by distance some of the time. This report also found that all of these evidence-based studies concluded that student achievement was higher in blended learning experiences when compared to either fully online or fully face-to-face learning experiences.

Blended learning is sometimes used in the same breath as personalized learning and differentiated instruction, Blended Learning is provided by the effective combination of different modes of delivery, models of teaching and styles of learning which are exercised in an interactively meaningful learning environment. Blended Learning courses combine online and classroom learning activities and uses resources in an optimal way in order to improve student learning outcomes and to address important institutional issues (Garrison, 2004). In general terms, blended learning combines the online delivery of educational content with the best features of classroom interaction and live instruction in such a way as to personalize learning, allow thoughtful reflection, and differentiate instruction from student to student across a diverse group of learners.

Blended learning (also referred to as flexible or hybrid learning) is most commonly utilized in higher education or adult education. It motivates students and makes the purpose of learning more definitive and clearer (Latchem & Jung, 2010). When e-learning is combined with conventional learning in the classroom, students can take advantage of much of the flexibility and convenience of an online course while retaining the benefits of the face-to-face classroom experience (Dziuban, et al., 2011). It is believed that the new traditional model in higher education around the world will be blended learning or technology-enabled learning spaces (Graham, et al., 2013). According to Kang (2014), the blended learning approach is favoured in higher education because it can effectively reduce costs, distribute quality education, and solve distance problems. With the advantages associated with e-learning, the blended learning approach is considered to be important because it can reduce the limitations typically associated with online learning, such as the lack of communication that often results in feelings of separation, isolation, and alienation among students, as well as diminished feedback and lack of responsibility.

Blended learning has been in use in classrooms in various ways. This learning approach has been identified as an effective method to ensure

superior integration of information communication technology (ICT) across the curriculum in teacher preparation programs. It can assist pre-service and in-service teachers in learning how to integrate technology within the digital environment in a non-threatening and comfortable setting (Duhaney, 2012). As of now, considerable research has been conducted to document the benefits of blended learning in higher education, but there are comparatively few empirical studies of the blended learning approach in teacher education fields (Collopy & Arnold, 2009). As Kang (2014) indicated in his study, the subject matter being taught and the teacher candidates can affect the effectiveness of the blended approach. In future studies, researchers need to consider the features of teacher education programs, such as field experience of the teacher candidates, communication with in-service teachers, and interaction with students. This paper investigates the perspectives of pre-service teachers of primary education in Ilorin, Nigeria, toward benefits and challenges in the use of blended learning in their training courses.

In spite of these benefits of blended learning, Umoh and Akpan (2014) reported that non-availability, non-accessibility and inadequate students' ICT skills towards the utilization of blended learning tools for teaching and learning is a barrier to its adoption in Nigerian Universities. Several benefits of blended learning have been reported in the literature, with the most common benefit being flexibility (Gedik, et al., 2012). Other benefits include opportunities for students to work at their own pace and with personalized curriculum, reinforcement of learning, and added engagement with peers. In a study of blended teacher's beliefs on the affordances and constraints of blended learning (Jeffrey et al., 2014), it was reported that a key benefit to the blended experience was the opportunity to meet face-to-face, as they believe their social presence and content expertise had a greater impact during in-person classes. Furthermore, it was claimed that the benefit of the online portion of a blended course was the continuous access and availability of the course learning management system (LMS), which served as a repository of content resources and grades and enabled fast and frequent communication. A key benefit of blended learning for teachers is the availability of various online tools and resources to differentiate instruction (Graziano & Feher, 2016). Online learning affords the use of games, tutorials, videos, and such that can support learning at different levels and for students with specific needs. Graziano and Feher (2016) also found that classroom management issues were mitigated by the online environment. Student disturbances and complaints are reduced and easier to deal with in an online environment.

However, blended learning is not without challenges. A few significant issues with blended learning have been identified in the current literature. One challenge noted by Lopez-Perez, et al., (2011) is

sustaining student engagement in the online component of the course when students see more value in the face-to-face sessions. This was echoed by Jeffrey et al. (2014), who reported similar findings with teachers. They found many teachers harbored the belief that there was more value in the face-to-face portion of a blended course and therefore favored it more than the online portion. A recent study on the problems of implementing blended learning among university instructors by Mozelius and Rydell (2017) revealed that the most common challenges were the extended time to learn new technology tools, lack of support for learning critical functions of the LMS, and discomfort with understanding and implementing effective online pedagogy. Gedik et al (2012) specified additional barriers to blended learning, such as the complexity of the work, where students are expected to engage in and complete tasks in two environments; staying disciplined and on track in the online activities; and struggling with technology issues.

Pre-service teachers also experience difficulties when using blended learning. Nakamura et al. (2018) studied the pros and cons of blended learning when teaching mathematics and found that it is a significant inconvenience for students to use online learning systems to submit answers (such as CAS). The above technology issues are also raised by Poon (2013) who reported that students do not find it motivating to learn online because of feelings of inauthenticity and isolation resulting from fewer lesson volumes and the lack of leadership. Students feel the need to become more authentically interconnected in the classroom. Also, learners cannot complete tasks because of lost time, the absence of individual problem-solving training, and a lack of social interaction when learning face-to-face.

Statement of the Problem

Teacher education is expected to contribute to economic programmes through a series of educational programmes and one of the programmes is primary education. Primary education is an educational programme which is designed to equip children with basic knowledge at the primary level of education, and also refers to the learning tailored towards child development at the basic level of education. It is expected to be the bedrock of success for other levels of education. However, for Nigeria to guarantee future progress and development of the country, primary education must be rescued from total decay and further decline. Inadequate knowledge and attitude have been found to be a barrier toward using blended learning instruction among pre-service teachers in tertiary institutions in Ilorin, Kwara State. This is as a result of the fact that most of the pre-service teachers in these institutions are not exposed to the use of the blended learning application by their lecturers and this leads to lack of sufficient knowledge which resulted to negative attitude toward blended learning.

Research by Alsalhi et al. (2021) indicated that the effectiveness of the blended approach to students' learning depends on the levels of the students. Students with low grades may find it difficult to apply new teaching and learning strategies in blended learning, especially if they are not intrinsically motivated. This clearly indicated the effectiveness of blended learning when being used by the experts and the strategies to be applied in implementing it, as well as the benefits it has on effective teaching and learning. Therefore, this creates a research gap on the perceived benefits and challenges of blended learning among pre-service teachers of primary education. Hence, the study focusses on the benefits and challenges of blended learning as perceived by the pre-service teachers of primary education in Ilorin, Nigeria.

Purpose of Study

The main purpose of this research work is to investigate the perspectives of pre-service teachers of primary education on benefits and challenges of blended learning in tertiary institutions in Ilorin, Kwara State. This study thus seeks to:

i. find out the benefits of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria.
ii. examine the challenges of blended learning as perceived by pre-services teachers of primary education Ilorin, Nigeria;
iii. determine whether there is significant difference in the perceived benefit and challenges of blended learning among per-service teachers of primary education base on gender and level of study.

Research Questions

The following research questions were raised to guide this study:

i. What are the benefits of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria?
ii. What are the challenges of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria?

Research Hypothesis

HO_1: There is no significant difference in the perceived benefits and challenges of blended learning among per-service teachers of primary education base on gender and level of study.

Methodology

The study employed descriptive survey research design where the opinions of the participants were sought for the research. This research design was selected because this study intends to examine the benefits and challenges of blended learning as perceived by the pre-service teachers of primary education in Ilorin, Nigeria. The population of the

study consist of all pre-service teachers in tertiary institutions in Ilorin, Kwara State, Nigeria, while the target population was made up of all pre-service teachers of primary education in tertiary institutions in Ilorin, Nigeria. A sample of four hundred pre-service teachers were selected across three levels of study (100level to 300level) in four tertiary institutions in Ilorin, Nigeria using stratified random sampling technique. The instrument used for data collection was a researcher designed questionnaire titled: "Benefits and Challenges of Blended Learning Questionnaire" (BCBLQ). The questionnaire was close ended consisting of Section A, B and C. The section A consist of demographic information of the respondents which are gender and level of pre-service teachers' education; while section B and C comprised items on benefits of blended learning and challenges of blended learning respectively. A four Likert scale response was used as the response format for the instrument which are Strongly Agree (SA) – 4points, Agree (A) – 3points, Disagree (D) – 2points, and Strongly Disagree (SD) – 1point. The research instrument was validated by the experts in the field of Teacher Education and Educational Test and Measurement, while instrument reliability was established using Cronbach Alpha reliability method which yielded a value of 0.83. The data collected were analyzed using descriptive statistics (Mean and Standard deviation) for the research question raised, while inferential statistics (Multivariate Analysis of Variance) was used to test the hypothesis formulated.

Results

The data collected were analyzed with the use of Statistical Package for Social Sciences (SPSS 23.0). The results of the findings are presented below:

Gender	**Frequency**	**Percentage (%)**
Male	187	46.8
Female	213	53.2
Total	**400**	**100**
Level of Study		
100 L	134	33.5
200 L	118	29.5
300 L	148	37.0
Total	**400**	**100**

Table 1: Demographic Data of the Respondents

Table 1 showed that out of 400 respondents that participated in this study, 187 (46.8%) were males, while 213 (53.2%) were females. From this, it can be deduced that majority of the respondents were female pre-service teachers. More so, it was revealed that out of the 400

respondents, 134 (33.5%) were 100L students, 118 (29.5) were 200L students, while 148 (37.0%) were 300L students. It was then deduced that majority of the respondents were 300L pre-service teachers.

Research Questions

Two research questions were generated and were answered with the use of mean and standard deviation (Descriptive Statistics).

Research Question 1: *What are the benefits of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria?*

In order to find out the benefits of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria, mean of responses of the respondents to each items on the questionnaire were computed, having four Likert scale format of Strongly Agreed (4 points), Agreed (3 points), Disagreed (2 points), and Strongly Disagreed (1 point). In other to get the cut-off mark, the average of the total point was calculated to be 2.5 (That is; 4+3+2+1 = 10: 10/4 = 2.5). Therefore, any mean value below 2.5 was tagged Disagreed while mean score above 2.5 was tagged Agreed. In order to provide answer to the above research question, the result of the data analysis is presented in the table below:

S/N	ITEMS	$\bar{X}$	SD	Remark
1.	Promotes collaborative learning	2.67	1.06	Agreed
2.	Encourages critical thinking	2.62	1.11	Agreed
3.	Saves time	2.64	1.09	Agreed
4.	Improves learners' engagements	2.60	1.13	Agreed
5.	Improves communication	2.59	1.23	Agreed
6.	Aids learning	2.54	1.14	Agreed
7.	Teaches accountability and responsibility	2.52	1.22	Agreed
8.	Makes learning interesting	2.61	1.13	Agreed
9.	Increases accessibility	2.55	1.14	Agreed
10.	Easy access to study materials	2.53	1.14	Agreed
Weighted Mean		**2.59**		

Table 2: Mean and Standard Deviation showing the Benefits of Blended learning

Table 2 above revealed the benefits of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria. It was evidence from result in the table above that the mean value of all the

items are greater than 2.50. From the response, benefits of blended learning as perceived by pre-service teachers of primary education is that blended learning; promotes collaborative learning, saves time, encourages critical thinking, makes learning interesting, improves learners' engagement, and improves communication. These were all ranked 1st, 2nd, 3rd, 4th, 5th and 6th respectively in accordance with their mean values from the highest to the lowest. The overall mean value of **2.59** which is greater than the cut-off means of 2.50 indicated that all the above items are perceived the benefits of blended learning among pre-service teachers of primary education in Kwara State.

Research Question 2: *What are the challenges of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria?*

In order to find out the challenges of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria, mean of responses of the respondents to each item on the questionnaire were computed, using four Likert scale format of Strongly Agreed (4 points), Agreed (3 points), Disagreed (2 points), and Strongly Disagreed (1 point). In other to get the cut-off mark, the average of the total point was calculated to be 2.5 (That is; 4+3+2+1 = 10: 10/4 = 2.5). Therefore, any mean value below 2.5 was tagged Disagreed while mean score above 2.5 is tagged Agreed. The result of the analysis is presented in the table below:

S/N	ITEMS	$\bar{X}$	SD	Remark
1.	No direct communication with other participants	2.52	1.03	Agreed
2.	lack of suitable infrastructure and access to technology	2.57	1.07	Agreed
3.	Non-attendance in synchronous classes	2.55	1.09	Agreed
4.	Conflict in schedule	2.54	1.10	Agreed
5.	Pace of advancement	2.54	1.12	Agreed
6.	Heavy academic workload	2.52	1.14	Agreed
7.	Negative impact on students	2.56	1.08	Agreed
8.	Low motivation to learn	2.49	1.21	Disagreed
9.	Log-in problems	2.51	1.18	Agreed
10.	Negative impact on teachers.	2.48	1.22	Disagreed
Weighted Mean		**2.53**		

Table 3: Mean and Standard Deviation showing the Challenges of Blended learning

Table 3 above revealed the challenges of blended learning as perceived by pre-service teachers of primary education in Ilorin, Nigeria. It was revealed from the table above that the mean value of all the items are greater than 2.50, except for items 8 and 10 which are less than 2.50. From the teachers' response, it shows that the major challenges facing the implementation of blended learning as perceived by pre-service teachers of primary education are; lack of suitable infrastructure and access to technology, negative impact on students, non-attendance in synchronous classes, conflict in schedule, pace of advancement, heavy academic workload, and no direct communication with other participants. These were all ranked 1st, 2nd, 3rd, 4th, 5th, 6th, and 7th respectively in accordance with their mean values from the highest to the least. The overall mean value of **2.53** which is greater than the cut-off means of 2.50 indicated that all the above items are the challenges of blended learning as perceived by pre-service teachers of primary education in Kwara State.

Testing the Hypothesis

One research hypothesis was formulated and was tested with the use of Multivariate Analysis of Variance (MANOVA) at 0.05 level of significance.

H_{O1}: *There is no significant difference in the perceived benefits and challenges of blended learning among per-service teachers of primary education base on gender and level of study.*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Benefits	118.327	6	19.721	.796	.580
	Challenges	124.708	6	20.785	.807	.572
Intercept	Benefits	60579.211	1	60579.211	2.446	.000
	Challenges	49112.879	1	49112.879	1.906	.000
Gender	Benefits	2.933	1	2.933	.118	.733
	Challenges	2.374	1	2.374	.115	.684
Level	Benefits	68.053	3	22.684	.916	.444
	Challenges	93.598	3	31.199	1.211	.321
Gender*Level	**Benefits**	30.352	2	15.176	**.613**	**.548**
	Challenges	16.871	2	8.436	**.327**	**.723**
Error	Benefits	817.448	33	24.771		
	Challenges	850.267	33	25.766		
Total	Benefits	101637.000	400			
	Challenges	81885.000	400			
Corrected Total	Benefits	935.775	399			
	Challenges	974.975	399			

Table 4: Summary of MANOVA showing the significant difference in the perceived benefits and challenges of blended learning based on gender and level of study

Table 4 above showed the result of the significant difference in the perceived benefits and challenges of blended learning among per-service teachers of primary education based on gender and level of education in Ilorin, Nigeria. It was revealed from the table above that pre-service teachers' perspectives on the benefits and challenges of blended learning does not depend on the gender of the respondents. This was evident by significant value of 0.73 and 0.68 which are greater than 0.05 alpha level. Also, the table revealed that the perception of pre-service teachers on the benefits and challenges of blended learning does not depend on their level of study. This was evident by significant value of 0.44 and 0.32 which are greater than the alpha value of 0.05. More so, when gender and level of study were paired together, it indicated that their interaction does not affect the perceptions of pre-service teachers on the benefits and challenges of blended learning. This was evident from the results in the above that the significant value of 0.55 and 0.72 obtained respectively are greater than the alpha value of 0.05. Hence, the null hypothesis above which stated that there is no significant difference in the perceived benefits and challenges of blended learning among per-service teachers of primary education base on gender and level of study is retained.

Discussion of the findings

The results above revealed that the perception of pre-service teachers of primary education in Ilorin, Nigeria on benefits of blended learning is that it promotes collaborative learning, saves time, encourages critical thinking, makes learning interesting, improves learners' engagement, and improves communication. This was evident from the response of the pre-service teachers which revealed that blended learning has some benefits which can significantly influence effective teaching and learning. More so, blended learning emphasizes the quantity incorporation of face-to-face and online learning. This is as a result of the important roles that blended learning plays in supporting and influence learning beyond the classroom. Since teachers and learners have limited time in the classroom, a seminar might continue in an online setting by using a discussion board or other media. This supports the assertion of Lopez-Perez et al. (2011), who affirmed that the use of blended learning has a positive effect in reducing dropout rates and in improving exam marks. Moreover, learners enjoyed participating in blended learning due to its flexibility and the networking opportunities it offers. This shows that students taking blended learning viewed their learning more positively. This was buttressed by Poon (2013) who supported that blended learning gives greater flexibility for student learning in terms of learning style and study pace. With the adoption of a wide range of delivery methods, blended learning can successfully improve students' experience and enhance their learning engagement.

Furthermore, this study revealed that some of the challenges of blended learning are; lack of suitable infrastructure and access to technology, negative impact on students, non-attendance in synchronous classes, conflict in schedule, pace of advancement, heavy academic workload, and no direct communication with other participants. This was shown from the response of the pre-service teachers which revealed that blended learning has some challenges which can hinder its effectiveness implementation in teaching and learning. Despite the fact that blended learning increases the study flexibility for both staff and students, it sometimes leads to relatively capital intensive, lack of suitable infrastructure and access to technology as some constraints for the successful integration of blended learning. This corroborates the submission of Tshabalala, et al. (2014), who stated that a list of challenges that add to the constraints in the implementation of blended learning include: lack of policy, lack of faculty support, lack of technological and computer skills, large class sizes, and inadequate technological resources. To further this explanation, Mirriahi, et al (2015) affirmed that lack of institutional definition of blended learning causes some challenges, as well as the lack of staff capacity to engage with blended learning, increases the probability of misinterpreting the blended learning principles and practices.

Moreover, the findings of this study showed that there was no significant difference in the perception of pre-service teachers of primary education on benefits and challenges of blended learning based on their gender and level of study. This was revealed by the significant value of 0.73 and 0.68 which are greater than the alpha value of 0.05. Also, the findings revealed that level of study has no influence on perception of the pre-service teachers on the benefits and challenges of blended learning. This was also revealed by the significant value of 0.44 and 0.32 which are greater than the alpha value of 0.05. This indicates that the perspectives of pre-service teachers on benefits and challenges of blended learning does not depend on their gender and level of study. This could be as a result of the fact that respondents are in the same learning environment upon which they enjoy the same benefits of blended learning and also experience similar challenges as it relates to blended learning. This finding is in agreement with that of Adas and Abu Samais, (2011) who reported no significant gender difference between female and male students' performance with the use of blended learning.

Conclusion

From the forgoing, it was concluded that pre-service teachers of primary education perceived blended learning as very beneficial to teaching and learning because, it promotes collaborative learning, saves time, encourages critical thinking, makes learning interesting, improves learners' engagement, and improves communication. Also, pre-service

teachers perceived challenges of blended learning are lack of suitable infrastructure and access to technology, negative impact on students, non-attendance in synchronous classes, conflict in schedule, pace of advancement, heavy academic workload, and no direct communication with other participants. It was revealed that the perspectives of pre-service teachers of primary education does not depend on both gender and level of study.

Recommendations

The following recommendations are proffer on the integration of blended learning into teaching and learning;

1. School administrators should encourage the integration of blended learning to foster effective teaching and learning, so as to ensure flexibility and networking opportunities for learners.
2. The school management should ensure the provision of suitable infrastructures that will enable maximum integration of blended learning, so as to reduce the challenges that may hinder its effectiveness.
3. The school administrators should ensure the integration and use of blended learning to foster effective teaching and learning cut across all learners irrespective of their gender and level of study.

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