BLENDED LEARNING AS A QUANTITATIVE TECHNIQUE FOR SECONDARY EDUCATION IN RIVERS EAST SENATORIAL DISTRICT IN RIVERS STATE: IMPLICATION FOR COUNSELLING

SUNDAY NSIRIMOBI ORDU, PhD.
Department of Educational Psychology, Guidance and Counselling
Ignatius Ajuru University of Education
Port Harcourt

And

OWHONDA, NKECHI GIFT
Department of Educational Psychology, Guidance and Counselling
Faculty of Education, Ignatius Ajuru University of Education
Rumuolumeni, Port Harcourt

Abstract

The study investigated blended learning as a quantitative technique for secondary education in rivers. The study employed two research questions and research hypotheses. The sample size consisted of 1,226 respondents represents 30% of the population of 4088 in 100 senior secondary schools in the Rivers East Senatorial District in Rivers state; the participants were also selected using stratified random sampling technique in the study. Instrument for data collection was Blended Learning in Secondary School Questionnaire (BLSSQ). To validate the research instrument, the researcher presented the questionnaire items to two experts in the Department of Educational psychology, guidance and counseling, Faculty of Education in Ignatius Ajuru University of Education for scrutiny. A reliability coefficient index of 0.90 was obtained using pearson product moment correlation coefficient. The mean ($\bar{x}$) and rank order level of significance for the Z-statistics at 0.05 level of significance for the hypothesis were used. The study revealed that the adoption of blended learning in secondary school by teachers' will impart students and improve their academic performance. The reason is that many subjects are now documented in CDs and DVDs which can be played and replayed for better understanding and assimilation by students. The study recommended that, government at all levels and non-governmental organization should support the current trend in global education by providing CDs and DVDs in different subject to teachers and students for better learning process. This will enhance students' academic performance as a result of regular play and replay of a particular topic and subject both in school and at home.

Introduction

Education has left the era of chalkboard and now operating in the digital age. This new and current trend in education as introduce the use of television, personal computers, mobile devices, films, textbooks, e-books, e-readers, internet and projector to enhance learning effectively. The use of Information Communication Technology (ICT) has shifted teachers from teaching using traditional method towards the advancement of technology and Internet due to the demand of technology knowledge (Ling and Magdaline, 2015). The Internet with shared global resources has brought a more flexible and dynamic learning environment beyond the traditional book-teacher model which regarded classrooms as the only dominant environment for formal education (Felvégi

and Matthew, 2012). With the advancement of ICT, blended learning has slowly gains its momentum in teaching and learning process. Blended learning has become a new building block in education because of its ability to provide a more flexible content and access to instruction without putting time and distance into consideration (Kayii and Dambo, 2018).

According to Wikipedia (2018) Blended learning is an education program (formal or non-formal) that combines online digital media with traditional classroom methods. It 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. Norm (2012) defined blended learning is a formal education program in which students learns at least in part through delivery of content and instruction via digital and online media with some element of students control over time, place, path, or pace. Blended learning can also be referred to an approach of learning which allow creation of suitable environment for students to achieve their objective more easily in improve educational environments by applying appraise technologies in various classroom environment (Akpan and Aminikpo, 2017). Blended learning promotes active, student-centered, collaborative learning and may comprise multiple learning paths that provide opportunities for individualized learning (Shand and Farrelly, 2017). The uniqueness of the blended learning is the ability to combine both, e-learning and traditional method of teaching-learning to students. As a result of the introduction of this modern method of learning, this has help provide scientific material to students in an easy, fast and clear manner; to this end the nature of the tools available to connect depends on the use of electronic media lessons in the classroom, communication between teachers and learners, and receive information, and the interaction between the student and the teacher, and the student and the sources of information available in the school

However, blended learning in secondary schools in Rivers state has created a new learning atmosphere in the classroom setting. This is due to government involvement by providing computers and projectors to schools especially the new model government build schools. The purpose is to enhance teaching-learning process and imparting students with the current global trend in education. This requires learning with CDs and DVDs ROM on different subjects especially the science subjects. The vision of the Rivers state government is to see, the impart of blended learning on the academic performance of students' in both internal and external examination such as WASSCE, NECO and JAMB. Since, the introduction of blended learning in secondary schools in Rivers state is still at the infant stage. The expectation is still high concerning blended learning on part of the students. The academic achievement of students' would tell the degree of impart of blended learning in secondary schools in Rivers state in the nearest

future. Thus, this study investigates blended learning in secondary school using quantitative technique approach.

Statement of the problem

Considering the prospect and potential of blended learning gain in developed countries and some developing countries to enhance secondary school students' academic achievement. Despite these significant advantages, adoption and integration of blended learning into the Nigerian education, many secondary schools is yet to see computer let alone for the students' to experience blended learning. Even schools with technological facilities provided, for several reasons are either not functioning or functioning below expectation.

There are factors that have stood as obstacle to full realization of the benefits of blended learning in secondary schools in Rivers state. These factors are as followed: poor power supply, inadequate infrastructure, inadequate funding, inadequate skilled man power, poor internet connectivity, negative attitudes/lack of acceptance of technology by staff and students and poor policies and programs implementation. The consequence is poor academic achievement of students' in both internal and external examination such as WASSCE, NECO and JAMB. Since, many external and professional examinations are online; how can they fit in and succeed. This will increase brain drain in the educational system. This is why, this study sought to investigate blended learning in secondary school using quantitative technique approach.

Research Questions

Based on the objective of the study, the following research questions provided to guide the study.
1. What is the relevance of blended learning to students' in secondary school?
2. What are the challenges of blended learning to students' in secondary school?

Research Hypotheses

Based on the research questions for the study, the following research hypotheses will be tested at 0.05 level of significance.

Ho_1: There is no significant difference between the mean ratings of Teachers and Students on the importance of blended learning on students' in secondary school in Rivers state.

Ho_2: There is no significant difference between the mean ratings of Teachers and Students on the challenges of blended learning on students' in secondary school in Rivers state.

Methodology

The study adopted a descriptive survey design. The descriptive research involves collecting data from the existing situation without manipulating the study subject in

order to answer the research questions and test the hypotheses concerning the current status of the subject of study or for the purpose of describing existing conclusion.

The population for this study consisted of 100 senior secondary schools in the Rivers East Senatorial District in Rivers state. The respondents are 3,918 teachers and 9,458 students. The total population is therefore 13,376.

Source: Statistic of academic staff in Rivers state senior secondary school board (2017).

The sample size of 1337 respondents represents 10% of the population of 13,376. The study employed stratified sampling technique for the selection of the respondents. The respondents were also selected using random sampling method of balloting without replacement. This gave all respondents equal chance of being selected for the study. The strata comprised are teachers and students respective. The teachers selected were 788 while the students were 549 for the study.

The instrument was a well-structured questionnaire titled Blended Learning in Secondary School Questionnaire (BLSSQ). The questionnaire which contained 10 items was divided into sections A and B. Section A, elicited information on the demographic background while section B dealt with issues a Noise Pollution and Ethical Behavior to Teaching and Learning Problems. This section is structured on a modified likert four-point rating scale; that is: Strongly Agree (SA) - 4 points, Agree (A) - 3 points, Disagree (D) - 2 points, Strongly Disagree (SD) - 1 point.

To get the criterion mean for scoring the questionnaire, all the points of the alternative responses was added up and divided by 4, that is (4+3+2+l)/4 = 10/4 = 2.50. Thus, any mean value that is 2.50 and above was not rejected and anyone below it (2.50) was rejected.

To validate the research instrument, the researcher presented the questionnaire items to two experts in Measurement and Evaluation in the Faculty of Education in Ignatius Ajuru University of Education for scrutiny. The observations, views, opinions and comments were used to modify the instrument before administering to the respondents. All these processes were geared towards proper determination of validation. To ascertain whether the instrument actually set out to meet what it was expected to test. The study used construct validity.

To ensure the reliability, the instrument was administered to 10 respondents outside the study area. After two weeks, the same instrument was administered to the same respondents. The scores obtained were collated and computed using the statistical method known as Pearson product moment correlation coefficient. The reliability coefficient index for the study was determined at 0.90.

The researcher used two weeks to go round the schools. The researcher observed, administered and retrieved the instruments from the participants. The researcher administered one thousand three hundred and thirty-seven (1337) instruments for the participants and was able to retrieve 1200 the instruments. This showed 89.75 percent return of instrument from the field.

The data collected for the study was coded according to the response sets on the questionnaire schedule. The research questions were answered with mean (x), standard deviation (SD) and rank order statistics, while the hypotheses of no significant difference were tested with z-test statistics at 0.05 level of significance.

Results

Research question 1: What is the relevance of blended learning on students' academic performance?

Table 1: Mean (x) and rank order of respondents' scores on the importance of blended learning on students' academic performance

s/n	Items	Teachers N=700	Students N=500	Weighted mean	Rank order	Decision
1.	Improvement of students' academic performance through learning with CDs and DVDs ROM.	3.19	3.18	3.19	1st	Agreed
2	Increases teachers and students knowledge in computer.	3.08	3.09	3.09	3rd	Agreed
3	Easy and fast to access materials from online library for further learning.	3.13	3.13	3.13	2nd	Agreed
4	The ability to play and replay the CDs and DVDs for better understanding and assimilation by students.	3.13	2.94	3.04	4th	Agreed
5	It develops independent learning skill.	2.72	2.64	2.68	5th	Agreed

From table 1, the high mean scores ranging from 3.19 to 2.68 indicated that all the items identified were accepted as the importance of blended learning on students' academic

performance. Hence, the mean scores were above the criterion mean. It is evident that, improvement of students' academic performance through blended learning with CDs and DVDs ROM is very possible. Item 1 had the highest weight mean scores from the respondents. In summary, the items identify gear towards the importance of blended learning on students' academic performance.

Research question 2: What are the challenges of blended learning to students?

Table 2: Mean ($\bar{x}$) and rank order of respondents' scores on the challenges of blended learning to students?

s/n	Items	Teachers N=700	Students N=500	Weighted mean	Rank order	Decision
6	Nonchalant attitude to embrace this new learning approach by teacher-student	3.18	2.63	2.91	2nd	Agreed
7	Many teachers are still computer illiterate to impart the students' through blended learning approach	3.15	2.64	2.89	4th	Agreed
8	Poor power supply affects blended learning since it requires electricity and light.	2.84	2.80	2.82	5th	Agreed
9	The availability of personal computer, CDs and DVDs ROM for learning by students	2.98	3.13	3.06	1st	Agreed
10	Many students do not have personal computer to study at home.	2.78	3.02	2.90	3rd	Agreed

From table 2, the high mean scores ranging from 3.06 to 2.82 indicated that all the items identified were accepted as the challenges of blended learning to students.

Hence, the mean scores were above the criterion mean. It is evident that, the availability of personal computer, CDs and DVDs ROM for learning by students. Item 9 had the highest weight mean scores from the respondents. In summary, the items identify gear towards the challenges of blended learning to students.

Test of Hypotheses

Ho$_1$: There is no significant difference between the mean ratings of Teachers and Students on the importance of blended learning on students' in secondary school in Rivers state.

Table 3: **Mean (x), standard deviation, and Z-statistic on the importance of blended learning on students'**

	N		SD	DF	z-cal.	z-critical	Decision
Teachers	700	2.96	0.69				
Students	500	2.89	0.60	1198	1.58	$\pm$1.96	Ho was accepted

Note: Level of significance = 0.05

The data in table 3, showed that the z-calculated value of 1.58 is less than z-critical value of $\pm$1.96 at 0.05 level of significance with 1,198 degree of freedom. The null hypothesis (H$_{01}$) was accepted. This means that there is no significant difference between the mean ratings of Teachers and Students on the importance of blended learning on students' in secondary school in Rivers state.

Ho$_2$: There is no significant difference between the mean ratings of Teachers and Students on the challenges of blended learning on students' in secondary school in Rivers state.

Table 4: **Mean (x), standard deviation, and Z-statistic on the challenges of blended learning on students'**

	N		SD	DF	z-cal.	z-critical	Decision
Teachers	700	2.96	0.72				Ho was accepted
Students	500	2.89	0.68	1198	1.71	$\pm$1.96	

Note: Level of significance = 0.05

The data in table 4, showed that the z-calculated value of 1.71 is less than z-critical value of ±1.96 at 0.05 level of significance with 1198 degree of freedom. The null hypothesis (H_{01}) was accepted. This means that there is no significant difference between the mean ratings of Teachers and Students on the challenges of blended learning on students' in secondary school in Rivers state.

Discussion of Findings

The study revealed that the items 1-5 identified were gear towards the importance of blended learning on students' academic performance. Study conducted by Hawkey and Beresford (2009) showed that blended-learning has a significant impact on both teachers and students. Blended- learning involves a combination of self-learning computer-based courses with classroom organisms. The study employed a sample of 92 teachers and students who voluntarily took part in this study. The result of the study showed that blended learning was positive and significant for both students and teachers. Majority of students perceived that the session helped them to improve their skills in the English language and make progress in self-evaluation. Study also indicates that teacher's role and their experience in the session will make them more effective. One of the major findings of the study is that blended learning has positive effect on students' study process. Another finding of this study is that teachers found it enjoyable and stimulating for them and would be happy to repeat this method of learning in the future. Based on this, the adoption of blended learning in secondary schools in Rivers state has the potential to affect students' academic performance positively. It will create room for better understanding and assimilation during learning. Therefore, the stated hypothesis that, there is no significant difference between the mean ratings of teachers and students on the importance of blended learning on students' in secondary school in Rivers state.

Secondly, the study revealed that the items 6-10 identified were gear towards the challenges of blended learning to students'. Many students' are face with lack of owning a personal computer, CDs and DVDs ROM for learning. Even the available one in the school, the students are not giving enough time on it and to get familiarized with it. Perhaps, some of the students are seeing computer for the first time especially those in the rural areas. Also, the issue of poor power supply is a factor affecting the use of ICT for learning both in school and at home. Therefore, limiting the effect of blended learning in secondary school for both teachers-students. Based on this, there is a stated hypothesis that, there is no significant difference between the mean ratings of Teachers and Students on the challenges of blended learning on students' in secondary school in Rivers state.

Conclusion

The adoption of blended learning in secondary school by teachers' will impart students and improve their academic performance. The reason is that many subjects are now documented in CDs and DVDs which can be played and replayed for better understanding and assimilation by students. Challenges are normal, in respect to blended learning to secondary school students'; it can be addressed and managed if proper measures are taking to consideration and to raise the quality standard of secondary education in Nigeria.

Recommendations

1. Government at all levels and non-governmental organization should support the current trend in global education by providing computers, CDs and DVDs in different subject to teachers and students for better learning process. This will enhance students' academic performance as a result of regular play and replay of a particular topic and subject both in school and at home.

2. Teachers and students should inculcate the right attitude by embracing the new global trend in education. The reason being that, we are living and operating in a computer era where many things done are online including learning.

3. Policies and programmes that will guarantee successful implementation of blended learning in secondary education should be put in place by government and relevant agencies/institutions. There should also include compulsory ICTs trainings for teachers in order to impart the students when using blended learning method during teaching. This will go along way to affect students' academic performance positively.

Implication for Counselling Psychology

The findings and conclusion reached in the study have far reaching implications for the counselling psychology profession and the educational system in Rivers East senatorial, Rivers and Nigeria in general.

Quantitative technique for secondary education in Rivers Senatorial district in Rivers State and Nigeria in general has become the talk of the day among Rivers State students therefore, preventive counselling approach in curbing this menace among students be applied right from primary school period effective counselling services should be provided at all level of school including nursery, primary and secondary education etc. if preventive approach to tackling quantitative technique for secondary education is to be effective then more professionally trained counselors should be

employed to render effective counselling services to the teeming population of students in Rivers East senatorial zone. A situation where one or two guidance counsellor are employed to render professional counselling services to over 4088 students in Rivers East Senatorial zone leaves much is to be desired.

Counselling centres in Rivers East senatorial zone should be equipped with materials needed to enable them function effectively, such as psychologists and psychological tests materials, internet services, support staff etc. a situation where students are just gathered together and enlightened on the dangers of value of blended learning is not professionally enough.

A conscious effort should be made to administer a questionnaire on a cross section of couples and the results from such questionnaire's administration interviews.

Individual or group counselling mode should be utilized by counsellors to re-orient students who have identified as likely enemies of blended learning based on the objective analysis of their measures of quantitative approach to educational system

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