IMPACT OF E-LEARNING ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN KOSOFE LOCAL GOVERNMENT AREAS, LAGOS STATE

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Abstract

The study investigated the correlation between E-learning and secondary school students' academic achievement. it is a descriptive survey of expo-facto type. A total of 100 secondary school students were randomly selected from 5 randomly selected secondary schools in kosofe local government area of Lagos state. An E-learning questionnaire was used to collect data while the students' scores in English and Mathematics were used to measure academic achievement. Data were analyzed with Pearson product-moment statistics at 0.05 level of significance. Three hypotheses were raised and tested. The result of the analysis indicated a positive relationship between e-learning and academic achievement of secondary school students (junior, senior). Based on these findings, recommendations were made that all stakeholders in academics (parents, teachers, and school administrators) should encourage and support students to acquire computer training for e-learning knowledge to enhance the academic achievement of secondary school students.
Keywords: *Academic Achievement, E-learning, Secondary School, Students, Pearson*

Introduction

The importance of electronic learning also known as e-learning in enhancing our education and learner's academic performance cannot be over emphasized. Recently the necessity for e-learning is seriously realized due to the pandemic of corona virus which has made physical interaction between the teachers and the students dangerous and almost impossible. Even if as developing country, Nigeria has not seen the level of importance of e-learning, corona virus has brought a challenge and make it necessary. Again, to make academic performance of learners to be strong while physical interaction between teachers and students is restricted by the pandemic, the use of e-learning has become imperative. Therefore, to achieve strong education in Nigeria there is the need to develop the internet to make learning easy and possible even if students cannot interact physically with the teachers because of corona virus restriction everywhere in the world. But it should be noted that e-learning in present day situations goes beyond the use of computer only. The outrage of corona virus has made learners to be taught by teachers by radio and television for their learning to continue even if they were not in the school due to the fear of contracting the virus and to avoid the wide spread of the deadly corona virus.

Aboderin (2015) describes e-learning as system that encompasses an array of systems, from the teacher using visual effects to students accessing academic materials online and teaching delivered entirely with the use of computer. According to www.e-learning.gov(2019), e-learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom. E-learning involves the use of network technologies to create, foster, deliver and facilitate learning and it encompasses face-to-face, distance, mixed and blended delivery models that utilizes electronic means, a unifying term used to describe the fields of online learning, web-based training and technology delivered instructions. (Adebayo & Balogun 2019). E-Learning is making use of e-technologies to access educational curriculum outside of a traditional classroom. According to Epignosis (2014), e-learning is mostly delivered through the internet, although in the past it was delivered using a blend of computer-based methods like CD-Rom. E-learning is a unifying term used to describe the fields online learning, web- based and technology delivered instructions (Oye, Salleh, Lahad, 2010). The use of e-learning tools in respect to learning process is critical for the successful implementation of various learning environments (Abdullah & Azzedine, 2011). It has been observed by Galy, Downey, and Johnson (2011) that modern classroom, whether online or schools-based, use e-learning tools and learning management systems that capture student cognition and engages them in the learning process via technology, while increasing their need for self-directedness.

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Many authorities believe that computers should be brought into the education system because of the expectation that students will benefit quantitatively from computers by providing them with the software and hardware for an effective learning process (Wheeler, 2010). A very high percentage (86 %) of teachers worldwide agree that students are more motivated and attentive when computers are in their study programmes so as to remain relevant in the rapidly changing educational conditions.(Salau , 2012).sThe existence of the internet has provided a way to use an electronic education known as E–learning which is the process of teaching and learning using computers via internet (Adelabu, Adu & Adjogri, 2014).

E-Learning, in comparison with traditional learning, significantly reduces the time needed to collect information. It also offers access to online resources, databases, periodicals, journals, and other material. If a student has trouble understanding part of the coursework, finding tips on the matter couldn't be easier than having immediate access to supplementary, unlimited, and mostly free material online. It reduces unnecessary load of study material that may not be directly effective for students learning and it enhances efficiency of access to study material (Aparicio, Bacao, & Oliveira, 2016). Massive open online courses have developed as new way of acquiring knowledge and are more useful when integrated with classroom technologies (Bralić & Divjak, 2018
Several studies have been carried out to show the influence of E-learning on academic performance. These studies revealed the importance of e-learning to academic performance of students at different levels of education.

As Iahad, et al. (2012) found, e-learning can have a significant positive impact on students' academic performance. This suggests that an increased use of e-learning technologies can improve students' learning. Ming –hung lin *et al* (2017) carried out a study on the Effects of Digital Learning on Learning Motivation and Learning Outcome. The research results conclude that digital learning presents better positive effects on learning motivation than traditional teaching does. Somayeh et al, (2018) conducted a study on the effect of e-learning on academic performance of undergraduate students. About 86% of them are aware of e-learning which proves that e-learning has been growing and has become more popular in recent times. The findings suggest that it may be important to integrate interactive instructional video into e-learning systems.

Fayomi, Ayo and Okorie (2015) investigated the impact of E-Learning in Facilitating Academic Performance Among Private School and Tertiary Institution in Ota Ogun State. The result from the study provides evidence of significant impact of e-learning in facilitating academic studies and self-development resulting to improved learning process and high. Academic performance. Similarly, Zare et al. (2015) also found that learning and recollection of Students who were educated to multimedia methods, is more than learning and recollection of students who were educated in the traditional method. Amaoge and Igwebuike (2016) carried out a study on Assessment of Internet Awareness and Use by the Undergraduate Students of College of Agricultural and Science Education in Michael Okpara University of Agriculture Umudike. The study revealed that all the respondents are aware and use the internet. The study also confirmed the self-assessed impact of the internet on the students' academic performances. Emeka and Nyeche (2016) conducted research on impact of Internet Usage on the Academic Performance of Undergraduates Students at University of Abuja, Nigeria. The findings from the study show that majority of students use the internet every day. The study also revealed that Paying for online services was a problem however; the study shows that internet is one of the beneficial tools in this era of IT not only for business but for academic point of view and enhances the skill and capability of students which assist them in studies and professional life.

Jakobsone and Cakula (2015) aimed to get a new perspective on knowledge sharing process, and better understand the future of automated learning support system involving the use of new technological opportunities. The researchers found that the analysis of the information system as an online eLearning support platform, improved quality of knowledge flow, and recommendations for advancing work-based learning besides the encouragement of efficient knowledge management technologies. Islam (2013) proposed a model to examine usefulness and role played by e-learning in improving students' academic performance. The result revealed that proper utilization of e-learning could be predicted by students perceived academic performance. Ahmad (2012) identified factors having effects on the implementation of e-learning in Jordan High School. The study was carried out in two universities of Jordan involving staff and students. The finding of the study revealed that e-learning facilities improve technological skills of staff and students.

 Review of studies conducted in the field of e-learning application and its impact on learning suggests that the use of this teaching method in the teaching-learning process can lead to the effectiveness of training. (Hosseini et al., 2015).

However, what is certain is that success in academic performance of students is success in all educational efforts. Therefore, success in the introduction and use of e- learning is determined by improved academic performance of the students. We can claim that e-learning is favorable to our education if the academic performance of our learners is enhanced using technology. The expectation in e-learning and academic performance is to arrive at positive impact of e-learning on the academic performance of students. If this is achieved there is need to identify the challenges involved in the use of e-learning to help our educational system. Therefore, studies like this become imperative and researchers should see constant studies in this area as a worthwhile engagement.

Research Hypotheses

The following hypotheses were raised to be tested in this study.
H_1: There is no significant relationship between e-learning and academic performance of secondary school student.
H_2: There is no significant relationship between e-learning and academic performance of junior secondary school student.
H3: There is no significant relationship between e-learning and academic performance of senior secondary school students.

Method

This study adopts descriptive survey research method as the research design. The survey method is considered appropriate for the study because the participants' opinion on the issue related to e-learning and academic performance of the students is measured .Likert-type items on a five-point scale was used to measure the participant perceptions on issues related to e-learning usage while the students' scores on mathematics and English Language examinations were used to measure the academic performance of the students in Kosofe local government area, Lagos state, Nigeria. The population for the study comprises of all secondary school students in Kosofe local government area in Lagos. A total of 100 secondary school students were randomly selected for the study. They were selected from 5 secondary schools purposively selected from among the secondary schools in Kosofe local government area of Lagos state. The students comprise of both junior and senior secondary school students. In each school, a total of 10 junior students and 10 senior students were selected.

Data was collected with the use of questionnaire administration. The questionnaire was of two parts. The first part is in line with the demographic characteristics of the participants. The second parts focus on ten items on issues relating to e-learning. The students' scores on mathematics and English Language were used to measure their academic performance. Mathematics and English language were used to measure the academic performance of the students because the two subjects are compulsory for all secondary school students. A total of one hundred and twenty (120) questionnaires were administered to the students while a total of one hundred copies were retrieved from the participants. This represents 83.4 percent returned questionnaire and considered relevant for the study.

The self-designed questionnaire was validated by experts on education research through vetting, correction and approval. To obtain the reliability of the questionnaire, a reliability test was done with the use of Cronbach alpha test. This help to measure the consistency accuracy of the instrument. A reliability coefficient of 0.76 was obtained, confirming the consistency and accuracy of the questionnaire. The questionnaire was administered personally by the researcher to the participants in the selected schools. The participants were given up to one hour to respond to the questionnaire and it was retrieved from them the same day to avoid participants influencing one another on their response to the instrument.   The data collected was analysised with Pearson's Product moment statistical tool. The hypotheses were tested with the use of SPSS version 22

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Results

This section of the report presents the results obtained from the analysis of the generated data. This is done in hypothesis-by-hypothesis format. It is done with the aid of fully labeled tables for clearer illustration. The explanation of the content of each of the tables is put immediately after it.

Hypothesis One
There is no significant relationship between E-learning and academic achievement among students.
Table 1:
P.P.M.C. Scores of Students on E-learning and Academic Achievement

Variable	No	Mean	SD	df	r. calc.	r. critical	Probability
E-Learning	100	43.00	9.53	198	0.39	0.2	0.05**
Academic Achievement	100	49.76	9.5				

**(Significant at 0.05 critical region)
The table shows the result obtained from testing hypothesis one. From the table, it is shown that r. calculated = 0.39, degree of freedom = 198 and r. critical = 0.2. Since r. calculated (0.39) is greater than r. critical (0.2), the hypothesis is rejected. Thus, there is significant relationship between E-learning and academic achievement among students.

Hypothesis Two
There is no significant relationship between E-learning and academic achievement of male students.
Table 2:
P.P.M.C. Scores of Male Students on E-learning and Academic Achievement

Variable	No	Mean	SD	df	r. calc.	r. critical	Probability
E-Learning	64	42.66	9.54	126	0.42	0.2	0.05**
Academic Achievement	64	50.03	9.8				

**(Significant at 0.05 critical region)
The table shows the result obtained from testing hypothesis two. From the table, it is shown that r. calculated = 0.42, degree of freedom = 126 and r. critical = 0.2. Since r. calculated (0.42) is greater than r. critical (0.2), the hypothesis is rejected. Thus, there is significant relationship between e-learning and academic achievement of male students.

Hypothesis Three: There is no significant relationship between e-learning and academic achievement of female students.
Table 3:
P.P.M.C. Scores OF female Students on E-Learning and Academic Achievement

Variable	No	Mean	S. D	df	r. calc.	r. critical	Probability
E-Learning	36	43.61	9.64	70	0.34	0.2	0.05**
Academic Achievement	36	49.28	9.08				

**(Significant at 0.05 critical region)
The table shows the result obtained from testing hypothesis three. From the table, it is shown that r. calculated = 0.34, degree of freedom = 70 and r. critical = 0.2. Since r. calculated (0.34) is greater than r. critical (0.2), the hypothesis is rejected. Thus, there is significant relationship between e-learning and academic achievement of female students.

Discussion of Findings

The present study has explored how the influence of e -learning on academic achievement of junior and senior secondary school using 5 junior and senior secondary schools in Kosofe local government Lagos state as a case study. The hypothesis which says that there no significant relationship between e-learning and academic performance of secondary school students was rejected. Therefore, it was concluded that there is significant relationship between e-learning and academic performance of secondary school students. This finding is in line with Ming –hung lin et al (2017) who found out digital learning presents better positive effects on learning than traditional teaching does. Similarly, this finding agrees with Mothibi (2015) examined the relationship between e-learning and students' academic achievement in higher education. The researcher found that ICT had a statistically significant positive influence on e-learning based students' academic achievements. The results also indicated that ICT had a significant positive influence on students' educational overall academic achievements.

The study revealed, significant relationship between e-learning and academic achievement of junior secondary school students. It agrees with the findings of Fayomi et al. (2015) who studied the impacts of e-learning in facilitating academic performance among private secondary schools and tertiary institutions in ota, resulting to improve learning process and high academic performance. Moravec et al. (2015) showed how e-learning tools impact students' achievement. Similarly, Iahad, et al. (2012) found, e-learning can have a significant positive impact on students' academic performance.

This study also discovered that their significant relationship between e-learnin and academic performance of senior secondary school students. This finding corroborates the findings of Jakobsone and Cakula (2015) found that the analysis of the information system as an online eLearning support platform, improved quality of knowledge flow, and recommendations for advancing work-based learning besides the encouragement of efficient knowledge management technologies. Zare et al. (2015) also found that learning and recollection of students who were educated to multimedia methods, is more than learning and recollection of students who were educated in the traditional methods.

Conclusion

The current study was carried out to show the influence of e-learning on academic performance of secondary school students. From the result of the study, e-learning facilitated studies significantly improve academic performance of both junior and secondary school students. It is also observed that there is more likelihood that majority of the students in junior and senior secondary schools and tertiary institutions have not fully utilized the self-development aspect of e-learning to significantly improve their learning process. Developments in e-learning and technologies are creating the groundwork for a revolution in education, allowing learning to be individualized, enhancing learners' interactions with each other, and transforming the role of the teacher. Although e-learning has rapidly grown in the field of education, more efforts are needed to make it available to everyone. E-learning changes the way students' think and study and can help students to grow with a better aptitude.

Recommendations

The availability of e-learning provides educators and educational managers the opportunity to undertake educational reforms and innovations that could result in increased efficiency and effectiveness of an education system. E-learning has also been shown to support the three forms of learning i.e., problem solving, critical learning and creative learning that are different methods of student-oriented, creative and critical-based learning. Thus, educators and managers should seriously consider ways of integrating the use of ICT in education and training. Training and programmers' development specialists can prepare specialized training courses that provide learners with theoretical and practical tools enabling them to promote and strengthen their scientific and technical knowledge and skills.

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