IMPACT OF E-LEARNING PLATFORMS ON STUDENTS' ACADEMIC PERFORMANCE IN NNAMDI AZIKIWE UNIVERSITY, AWKA, ANAMBRA STATE, NIGERIA

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Abstract
This study investigated the impact of e-learning platforms on academic Performance of undergraduates in Nnamdi Azikiwe University, Awka. The specific objectives examined the various e-learning platforms utilized in tertiary institutions and the strategies for improving the utilization of e-learning platforms in tertiary institutions. Lack of internet facilities, technology and e-learning facilities have been identified as major problems of adopting or fully utilizing online e-learning platforms by most Nigerian Universities. E-learning platforms such as Zoom, Microsoft teams, Udemy, Coursera have been recognized to improve students' academic performance to a great extent. The population made up of 2,358 (Two thousand, three hundred and fifty-eight) regular undergraduate students from selected faculties in Nnamdi Azikiwe University. Questionnaire was used to collect data. Descriptive statistics was employed using simple descriptive statistical tools, such as frequency distribution scale, likert scale and simple percentage. The results revealed that: a good number of e-learning platforms (Zoom, Microsoft Teams, Udemy, Cousera) have been utilized by undergraduates as shown by mean value of 3.21; and there were recognized strategies (provision of more e-learning facilities and internet services) that should adopted to improve the continuous utilization of e-learning platforms among undergraduates (with a mean value of 3.18) in Nnamdi Azikiwe University, Awka with a mean value of 3.17. This study recommended inter alia that government should assist in supporting tertiary institutions with financial services and management experts to promote and sustain the use of e-learning platforms in tertiary institutions.
Keywords: *E-learning, students' academic performance, Unizik, Awka, Nigeria.*

Introduction

Education is an ever dynamic and evolving process. As a dynamic process, it develops the child according to the changing situations and time and as an evolving process it moves in a regular progression through a system. Part of this system is Technology. According to Timi (2020) technology alone will not make significant changes to the outcome of students; rather, technology must be comprehensively and consistently integrated in order to transform the way people – more specifically students – learn.

E-learning is a unifying term used to describe the use of online learning, web-based training and technology delivered instructions. It is simply called Electronic Learning. E-learning involves learning using groups on social media such as WhatsApp (WA), telegram, Zoom applications, or other social media to ensure that students can learn at the same time and in different places (Salehudin *et al* 2021). E-learning has revolutionized learning for several years, improving efficiencies, workflow and collaboration. The flexibility offered by e-learning in terms of place of learning and time of learning means that whole education programs can be rolled out across teams all over the world. The integration of emerging technologies in teaching and learning process is no longer a choice but a need due to; the changing learning environment, demand for flexibility in methodology, and the need to enhance creativity and productivity in learning (Onyema, 2019).

The recent scourge of the Coronavirus Disease (COVID-19) reemphasized the undeniable influence of e-learning on the learning outcome of students. Many schools and learning institutions were disrupted in learning due to complete close-down to curtail the spread of the virus. During this period, learning and academic activities continued in some institutions globally, but on the electronic platform. The negative effect of the COVID-19 pandemic was managed by educational institutions that had supportive e-learning facilities during the heat of the pandemic. The use of these e-learning platforms such as Microsoft Teams, Zoom, Whatsaap etc were utilized by both the lecturers and students of Nnamdi Azikiwe University to continue their normal teaching and learning activities during the COVID-19 lockdowns, thereby mitigating the negative effect of the protracted lockdown on their staff and students.

Onyema et al, (2020) affirmed that technology have modified teachers' method from traditional approach that often place them as dispensers of knowledge to a more flexible approach where they act more as facilitators, mentors and motivators to inspire students to participate and learn. The influence of online e – learning platforms on performance has been a contemporary topic of discussion among scholars and researchers. Many scholars argue that students in higher educational institutions that engaged in E-Learning, generally performed better than those in face-to-face courses. (Holley, 2002) found that students who participate in online/ E-Learning achieve better grades than students who studied through the traditional approach. As a result of this, many institutions of higher learning are embracing the use of online e-learning platforms which is also known as virtual learning. On the other hand, some scholars are of the opinion that E-learning platforms do not add any value to the teaching and learning activities of the University (Fayomi, Ayo, Ajayi & Okorie, 2015). This perhaps may be as a result of lack of investigation on the impact of E-learning platforms on student academic performance. Hence this study is set to examine the impact of E-learning platforms on student's academic performance in Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

This study is informed by the use of very low interactive e-learning platforms among undergraduates in Nnamdi Azikiwe University. The rate of technology use has increased in majority of the Universities in Nigeria due to the vast growth of internet technology. However, there are some tertiary institutions that have not adopted the use of e-learning platforms to facilitate e-learning among students. Worse still, some universities that have adopted these e-learning facilities are not consistent in utilizing it to its optimum. They still prefer to use the conventional traditional approach to teaching and learning i.e. physical learning.

Lack of internet facilities and equipment like projectors, routers, virtual learning platforms, low internet coverage, etc. are one of the major problems of adopting or fully utilizing online e-learning platforms in most Nigerian Universities in general. Particularly, most of the e-learning platforms that have been adopted in Nnamdi Azikiwe University like Microsoft teams, zoom etc are currently not used among the undergraduates and are frequently used by the post graduates and staff of the university. The COVID-19 pandemic, which prevented the traditional approach learning (physical learning), forced a lot of schools and universities to adopt the e-learning method (Ramdami, *et al, 2021).* Some Nigerian Universities that fully adopted online e-learning platform continued their lectures and also administered exams while others were completely shut-down. This made the undergraduates of these universities a step ahead of their counterparts in other universities that were completely shut down during the pandemic. There is a cyclic connection between

development, technology and education. In view of this, universities that have fully adopted the e-learning platforms are more developed than those that have not fully adopted these platforms.

Several studies reviewed the impact of online learning on the academic performance among undergraduates in the Ogun state (Fayomi, Ayo & Okorie 2015), Abuja State (Aboderin, 2017); Enugu state (Nwakoby & Okoye, 2020) and Northern Universities (Allison, Dangari, Sanchi, Alhassan & Badamasi, 2022), but no known study has looked at E-learning and Academic performance in Anambra State and specifically Nnamdi Azikiwe University which this study is set to examine. Hence this study is set to examine the impact of e-learning platforms among undergraduates in Anambra state using Nnamdi Azikiwe University as a case study.

The broad objective of this study is to examine the impact of e-learning platforms on students' academic performance in Nnamdi Azikiwe University, Awka, Anambra State, Nigeria. The specific objectives are to: Examine the various e-learning platforms utilized in tertiary institutions.

Determine strategies for improving the utilization of e-learning platforms in tertiary institutions.

Review of Related Literature

E-Learning is also called online learning or electronic learning. Information and communication technology to enhance and facilitate teaching and learning is called E-learning (Oye, Salleh & Lahad, 2012). From the view of Salehudin *et al* (2021), E-learning involves learning using groups on social media such as WhatsApp (WA), telegram, Zoom applications, or other social media to ensure that students can learn at the same time and in different places. E-learning is seen as an innovative approach to the delivery of educational services via electronic in the form of information that enhances the knowledge, skills and other outcomes of students (Fazlollahtabar & Muhammadzadeh, 2012). E-learning system is implemented through a network connection. It is a form of learning that involves the use of information and communication technology through a computer (PC) or laptop connected to an internet (Horton & Horton, 2003). E-learning can also be defined as learning through a computer (PC) or laptop connected to an internet network connection.

Raouna (2023) identified the following e-learning platforms:

i. **Udemy:** Udemy firmly believes in disrupting and democratizing educational ecosystem by allowing anyone and everyone to learn from its pool of more than 20000 Subject Matter Experts. To a very large extent, Udemy has been successful in its mission. This eLearning platform has many content creation tools such as PDF documents, PowerPoint, etc. text and video content can be collated to create and publish courses
ii. **Cousera:** As one of the top providers of massive open online courses, Coursera partners with universities and organizations around the world to provide a wide range of in-depth courses, both paid and unpaid to learners across the world. Coursera has one of the largest numbers of university partners, courses, specializations and degree programmes available.
iii. **LinkedIn Learning:** Formerly popular by the name Lynda, LinkedIn Learning is one of the top online learning platforms that offer extensive courses and a tutorial library that covers topics in business, creativity and technology. This is also another learning site that offers both free and paid content by experts. These courses range in expertise from beginner to advanced level, awarding certificates upon completion of a course**.**

There are also other e-learning platforms such as skillshare, edX and Udacity with their advantages and disadvantages (Raouna, 2023). These platforms can be adopted by institutions of higher learning as ideal online learning platforms to bridge the gap created by the traditional method of learning (i.e physical meeting or classroom learning.

Academic performance is the measurement of student achievement across various academic subjects. The academic performance involves factors such as the intellectual level, personality, motivation, skills, interests, study habits, self-esteem or the teacher-student relationship. A positive outcome on academic performance of students shows that the teaching and learning process was successful, all other factors held constant. Olufemi (2018) opined that students' academic performance is affected by several factors which include students' learning skills, parental background, peer influence, teachers' quality, learning infrastructure among others.

Strategies for Improving the Use of E-Learning in Tertiary Institutions

Technology is an important strategy of strengthening teacher professional and e-learning abilities (Turvey, 2012). The teacher must know how to use the technology provided for by the school or university to facilitate e-learning process. The teacher has become the person who guides students not about providing knowledge but the way students get knowledge and must pay attention to aspects of student life because not all students are the same and need to be planned for very well (Cavus, 2015). That means the teacher uses e-learning so that student can follow properly and appropriately.

Also, social media has played a great role in facilitating the use of e-learning. Social media is a place where people make friends from various countries and cultures. Recently, especially among the younger generation, social media platforms such as Facebook, Twitter, and YouTube have become very popular and instagram (Salehudin *et al*., 2020). The use of social media as a learning medium for students becomes an alternative that can be chosen (Lee *et al*., 2011). This is based on: First, the development of science and technology is moving very fast, which is accompanied by an increase in the use of social media. Social media is now not only a means of communication (Lee *et al*., 2011) but also a means of learning and promoting one's business. According to Zhang *et al*.(2015), with the support of social media, the university can facilitate the management process and e-learning knowledge for all lecturers and students. A teacher may choose to adopt social media for e-learning with the perception that social media is easier to use compared to specialized e-learning platforms such as easy prep (Karkar *et al*., 2020).

Empirical Review

Allison et al (2022) exmined the role of e-learning on academic performance of undergraduate students of Kebbi State University of Science and Technology using a descriptive survey design. Data was collected using structured questionnaire and analyzed using mean and standard deviation. Findings of this study revealed that e-learning plays a positive role on academic performance of undergraduate students in the university. Based on this findings the study recommended among others that te Kebbi state government should ensure a maximum standard set for the institution to get computer and internet facilities to enhance effective learning process in the university.

Aboderin (2017) examined the effect of e-learning on academic performance of distance learners in a Nigerian University using NOUN, Abuja as a case study. The study adopted a mixed-method approach (i.e both quantitative and qualitative approach) in data collection. Questionnaire was

used to collected quantitative data while focus group discussion was used to collect qualitative data. Spearman's correlation coefficient, ANOVA, T-test and post-hoc Test were used to analyse data. Findings revealed that the student's academic performance were influenced by eight factors (the student's ICT literacy level, frequency of engagement with ICT, marital status, previous academic performance, hours spent on internet per day, hours spent on computer per day and family size.

Fayomi et al (2015) carried out a study to examine the impacts of e-learning in facilitating academic performance among private secondary schools and tertiary institutions in Ota, Ogun State, Nigeria. Both primary and secondary data were utilized in the study. Structured and unstructured interviews with some staff and students of the selected Secondary and tertiary institutions was conducted. Questionnaires were administered to the students in order to elicit information on their experiences on e-learning.. The study utilized regression analysis based on the testable hypothesis based on the study objectives. Analysis of 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.

Nwakoby & Okoye (2020) examined the effect of E-learning on student's academic performance in Enugu State Tertiary institutions. Questionnaire was used as a means of data collection. Data was analyzed using regression analysis. The result revealed that e-learning has a significant positive effect on academic performance among students of tertiary institutions in Enugu, Nigeria and recommended that the tertiary institution management should ensure adequate logistics for E-learning of their students.

Using the structural equation modeling, Gopal et al (2021) sought to identify the factors affecting students' satisfaction and performance regarding online classes during the pandemic period of COVID–19 and to establish the relationship between these variables. The study is quantitative in nature, and the data were collected from 544 respondents through online survey who were studying the business management (B.B.A or M.B.A) or hotel management courses in Indian universities. Structural equation modeling was used to analyze the proposed hypotheses. The results show that four independent factors used in the study viz. quality of instructor, course design, prompt feedback, and expectation of students positively impact students' satisfaction and further student's satisfaction positively impact students' performance. For educational management, these four factors are essential to have a high level of satisfaction and performance for online courses.

Methodology

The study was carried out in Awka, the state capital of Anambra State. Anambra State is one of the thirty-six states in Nigeria. It is located in the South East zone of the country. The ethnic group of the area is Igbo, which is one of the three major ethnic groups in Nigeria. The occupation of the people in Awka basically includes civil servants, public servants, and workers in the financial institutions, artisans and traders and farmers. The state has twenty-one (21) local government areas grouped into six Education zones (Aguata, Awka, Nnewi, Ogidi, Onitsha and Otuocha) with the state capital at Awka.

The population of the study consists of fourteen faculties with active regular students in Nnamdi Azikiwe University Awka, made up of 28,000 regular undergraduate students, as confirmed by the Office of the Dean of Students Affairs in the Awka Campus of the University.

Multi-stage sampling technique was used to determine the actual sample of the study. This was carried in two stages. Under the first stage, the researcher selected three (3) Faculties namely Faculty of Education, Faculty of Medicine and Faculty of Management Sciences using simple random sampling. In the second stage, the researcher, using the judgmental sampling technique selected all the final year students in the selected faculties. This is as a result of their exposure, experience and knowledge over other younger and less experienced undergraduates. Furthermore, copies of questionnaire will be administered to the selected students. Copies of the questionnaire were rated on a 5-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree).

Table 1: Distribution of selected Faculties

S/N	Name of Faculty	Location	Students Database
1	Faculty of Education	Awka Campus	4,889
2	Faculty of Management Sciences	Awka Campus	3,496
3	Faculty of Medicine	Nnewi Campus	3,420
	Total		11,805

Source: Field Survey, 2023.

Table 2: Distribution of selected Final Year Students

S/N	Name of Faculty	Level	Students Database
1	Faculty of Education	Final year	1,303
2	Faculty of Management Sciences	Final year	653
3	Faculty of Medicine	Final year	402
	Total		2,358

Source: Field Survey, 2023.

In order to determine the sample size for the study, the researcher made use of Taro Yemane's formula in determining the sample size from a finite population. The formula is given as:

$$n = \frac{N}{1+N(e)^2}$$

Where n = the sample size
N = the finite Population
e = Sampling error / Level of significance (in this case 5% or 0.05)

From the calculation above, 342 respondents were sampled for the study.

Sources of Data

Primary and secondary sources for the collection of data were utilized.

Instrument of data collection

The questionnaire was used in collecting relevant data for the research work. The questionnaire was designed according to the specific objectives and addressed the variables directly to the research questions and the hypothesis earlier developed in the study in sections.

Methods of Data Analysis

The Analysis was obtained using simple descriptive statistical tools, such as frequency distribution scale, likert scale and simple percentage. The responses developed through the Likert scale is weighted or assigned numerals to obtain their stand on variable being measured.

Results and Discussion of Findings

Table 3 Distribution of Respondents According to Socio-Economic characteristics

Item	Frequency	Percentage(%)

1	**Sex**		
	Male	144	42.2
	Female	197	57.8
	Total	341	100.00
2	**Age distribution**		
	15-20	78	22.8
	21-25	206	60.4
	26-30	35	10.2
	31-above	22	6.5
	Total	341	100.00
3	**Marital status**		
	Single	245	71.8
	Married	96	28.2
	Total	341	100.00
4	**Faculty**		
	FOE	140	41.0
	FMS	102	30.0
	FOM	99	29.0
	Total	341	100.00

Source: Field Survey, 2023

Table 4.1 presented the socio characteristics of the respondents. It was revealed that 42.2% of the respondents are male, while the rest are female. This indicates that there was no gender disparity in the selection of the respondents across the faculties under study. All the members cut across the entire age ranges, with majority of them falling within the ages of 21-25 (60.4%), 15-20 (22.8%), 26-30 (10.2%), 30 and above (6.5%) This indicates that a good number of respondents were made up of young persons in their prime age. About 71% of the respondents were single, only 28.2% were married. This indicates that the respondents should have more time to focus on their academics as single people with less distraction which comes with marriage and childbearing. Finally, about 41.0% of the respondents were from the faculty of education, others (Faculties of management sciences and Medicine had about 30% and 29% respectively) this is clearly obvious as the Faculty of Education boasts of more number of students than the other faculties under study.

Research Question 1: What are the various e-learning platforms in tertiary institutions?
Data relating to this research question is presented on Table 4.2

Table 4.2: Mean Ratings on various types of e-learning platforms in tertiary institutions

N=341	Mean	SD	Remark
1. Zoom e-learning platforms are utilized in your department?	3.33	.77	Agree
2. Micro Soft Teams e-learning platforms are utilized in your department?	3.38	.69	Agree
3. Technology and Internet facilities are available in my department to facilitate e-learning.	3.26	.77	Agree
4. I have taken a course on Udemy E-learning platform	3.28	.64	Agree
5. Cousera is an interesting e-learning platform	3.13	.72	Agree
6. I utilize Linkedin Learning to study online	2.89	.80	Disagree
Grand Mean	3.21	.731	Agree

Source: Field Survey, 2023

The respondents, as could be seen in table 4.2 agreed to 5 out of the 6 items on the various types of e-learning platforms in tertiary institutions. According to the responses in the table, the respondents assert: Zoom e-learning platforms are utilized in your department, Micro Soft Teams e-learning platforms are utilized in your department, Technology and Internet facilities are available in my department to facilitate e-learning, I have taken a course on Udemy E-learning platform, Cousera is an interesting e-learning platform. However, the respondents disagreed to having utilized Linkedin Learning to study online. We can deduce therefore that Linkedin Learning is an unpopular e-learning platform. Their mean ratings for the 6 items ranged from 2.89 to 3.89 while the standard deviation scores ranged from
.64 to .80. The S.D scores show that the respondents were homogenous in their mean ratings.

Decision rule:

Accept the objective if the calculated value is greater than 3.0 and reject if the calculated value is less than 3.0.

From the decision rule, objective one will be accepted with grand mean value of 3.21.

Research Question 2: What are the strategies for improving the utilization of e-learning platforms?

Data relating to this research question is presented on Table 4.4

Table 4.4: Mean Ratings on strategies for improving the utilization of e-learning platforms

N=341	Mean	SD	Remark
7. Internet facilities should be made available and frequent enough to facilitate e-learning platforms in my department.	3.04	.82	Agree
8. There is need for provision of more e-learning facilities in my department to accelerate the e-learning process.	3.15	.74	Agree
9. The University management should lay more emphasis on the adoption of e-learning platforms	3.35	.64	Agree
10. Lecturers should be encouraged and trained to adopt and utilize e-learning platforms	3.29	.62	Agree
11. More assignments and lectures should be conducted on e-learning platforms	3.17	.60	Agree
12. Tests, Quizzes and other forms of assessments should be done on e-learning platforms	3.13	.57	Agree
GRAND MEAN	3.18	0.67	Agree

Source: Field Survey, 2023

From the table above, the respondents agreed to 6 out of 6 items that e-learning platforms have to a great extent made significant influence on their improves learning outcome. They agreed that Internet facilities should be made available and frequent enough to facilitate e-learning platforms in their departments; they also agreed that there is need for provision of more e-learning facilities in their departments to accelerate the e-learning process; they agreed that the University management should lay more emphasis on the adoption of e-learning platforms. Also, they agreed Lecturers should be encouraged and trained to adopt and utilize e-learning platforms. They also agreed more assignments and lectures should be conducted on e-learning platforms. Finally, they agreed that Tests, Quizzes and other forms of assessments should be done on e-learning platforms.

From the above responses, we can deduce that if these strategies stated above are implemented, e-learning platforms will be more utilized in universities which would improve students' academic performance.

Their mean ratings for the 6 items ranged from 3.04 to 3.35 while the standard deviation scores ranged from .65 to .83. The S.D scores show that the respondents were homogenous in their mean ratings.
From the decision rule, the specific objective two will be accepted with grand mean value of 3.18.

Summary of Findings

1) A good number of e-learning platforms (Zoom, Microsoft Teams, Udemy) have been utilized by undergraduates in Nnamdi Azikiwe University, Awka.
2) There were recognized strategies (provision of more e-learning facilities and internet services) that should adopted to improve the continuous utilization of e-learning platforms among undergraduates in Nnamdi Azikiwe University, Awka

Conclusion

This study concluded that e-learning platforms had significant positive influence on the academic performance of students in Nnamdi Azikiwe University, Awka.

Recommendations

On the premise of these study findings, the following recommendations were made;
1) There is need for adoption and training of all the e-learning platforms by students and teachers to promote the continuous utilization of e-learning platforms in Nnamdi Azikiwe University, Awka.
2) E-learning facilities and internet services should be provided for and encouraged by Universities for continuous use of e-learning platforms in tertiary institutions.

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