Virtual Classroom System and Students' Academic Performance in Tertiary Institutions in Ekiti State

Omidiji, Samuel Ajetomobi [1]
Office Technology & Management Department
Federal Polytechnic, Ado
Omidijisamuel17@gmail.com

Medayese Olanike Olayinka[2]
Office Technology & Management Department
Federal Polytechnic, Ado
getnikky@gmail.com

Anyanwu Augustina Uloma[3]
Office Technology & Management Department
Federal Polytechnic, Ado
08036620525

Abstract

The study investigated the relationship between virtual classroom system and students' academic performance in tertiary institutions in Ekiti State. The research adopted a descriptive survey design. Two research questions and one hypothesis were posed to guide the study. The population for the study was 40 Business Education lecturers comprising lecturers from four tertiary institutions in Ekiti State. No sampling technic was used because of the manageable size of the population. The instrument used for the study were titled "Virtual Classroom System Questionnaire on Students' Academic Performance. (VCSQSAP). The instrument was validated by three experts from the department of Business Education and Test and Measurement from Ekiti State University, Ado Ekiti. Reliability of the instrument were ensured through the conduct of Pilot Test and Cronbach Alpha analysis. The reliability coefficient of 0.89 was obtained. The two research questions were analyzed using mean and standard deviation while the null hypothesis formulated was tested using z-test at 0,05 level of significance. The finding of the study revealed that business educators agreed on high extent of utilization of virtual classroom system for instructional delivery. The results also indicated that virtual classroom technological facilities were available which improve students' academic performance in tertiary institutions in Ekiti State. The study recommended among others that period training should be organized for the lecturers for up skilling on the use of virtual classroom system and the software technological facilities.

Keywords: Virtual Classroom System, Students' Academic Performance and Tertiary Institutions

Introduction

Information communication Technology and its facilities has turned around the ways teaching and learning activities in being carried out globally especially from analogue pedagogy to digitalized online virtual system. Virtual classroom has increasingly been employed in teaching and learning activities in tertiary institution of learning globally. Virtual classroom learning involves the ability and capability in the usage of electronic technologies for instructional delivery and students' academic performance in tertiary institutions. Virtual classroom system allows lecturers and facilitators and their students to interact in real time over the internet Omosidi, Ajao and Ahmed (2024). Lecturers take their classes in an efficient virtual environment with the help of Wi-Fi connection. A virtual classroom is an online learning

environment that allows teachers and students to communicate, interact, collaborate, and explain ideas, though and feelings. It enables students to access quality academic collaboration and acquire knowledge anywhere on the planet so long as they both have a reliable internet connectivity. (Timya and Duktur 2023) Virtual instructional delivery connected the facilitator and the learners together simultaneously utilizing the same platform.

Globally, there is tremendous improvement on the utilization of virtual classroom system by lecturers and facilitators which have enhanced students' academic performance and their acquisition of requisite knowledge, skills and competencies needed in the contemporary global world of work dominated by digital based activities. The improvement in the adoption of virtual classroom system is pronounced and invaluable on the students' academic performance whereby students can learn at their own pace and result oriented.

The adoption of virtual classroom technologies for instructional delivery has undoubtedly enhanced students' academic performance tremendously. These virtual technologies have been found to possess the antecedents and capability to improve quality of instructional delivery in the tertiary institutions. They have the potentiality of supporting curriculum implementation and real time interactive between the lecturers and the students which resulted into improved learning outcomes. (Ogwunte, Agburuga, & Abung, 2023)

Despite the huge potentials of virtual classroom system on students' academic performance for fostering improved learning outcomes, the impact of virtual classroom system has been hindered by many factors ranging from the full adoption of the virtual platform by the facilitators, poor internet services and connectivity. Uzo-Okonkwo, Abaekih, & Okafor, (2020) argued that, students' academic performance suffered the acquisition of needed skills in the global market as employers of labour remarked that the graduates produced in the 21st century world of work are half-baked and not employable because they lack the digital skills required in the 21st century world of work. The rejection of the graduates produced by the employer of labour revealed that instructional delivery has suffered to produce the desired goals and objectives which is to produce a competent graduate with requites skills and competency required in the global world of work. It was also asserted by Ibukun, & Akinwamide, (2023) that virtual instructional delivery facilities were not adequate in our tertiary institutions of learning and hindered the full adoption of virtual classroom system to achieve the desired results. The has also hindered students' academic performance because the tertiary institutions are unable to produce the much-needed skilled graduates that will be able to compete favorably in the global market and thus, contribute to national development. Adeoye, Adenikin, & Adenikin, (2020) remarked that tertiary institutions of learning have still healing the wound created by covid 19 because they are yet to adapting to the problems posed due to certain obstacles such as availability of virtual technological facilities to facilitate instructional delivery. Full adoption of virtual platform by the facilitators for instruction delivery and poor internet connectivity.

Statement of the Problem

Observation from the previous researcher revealed that the full adoption of virtual classroom system will transform the educational setting and enhance students' academic performance in tertiary institutions. Facilitators and students will have collaborations using platform and digital software. The aims and objectives of tertiary institution would be achieved to produce a qualified, competent and skilled manpower that will contribute positively for economic development. Regrettably, it seems that most tertiary institutions in Ekiti State have not been able to embrace virtual classroom system in their instructional delivery. This was to the detriment to the quality of graduates produced.

Omidiji, Abiodun, & Olatunji, (2023), observed that virtual classroom system has posed challenges to students' academic performance in tertiary institutions of learning in

Nigeria. Lecturers do not adequately embrace the use of virtual platform in their instructional delivery. Added to the problem of application is the inadequacy of virtual classroom facilities and lack of skills and competency to use virtual platform by the lecturers. This problem makes it difficult for the facilitators to facilitate learning and prepare their students for use of virtual platform. Based on these established problems, the researcher tends to investigate classroom system and students' academic performance in tertiary institutions in Ekiti State.

Purpose of the Study

The purpose of this study is to investigate classroom system and students' academic performance in tertiary institutions in Ekiti State. Specifically, the study sought to:

1 Ascertain the level of availability of virtual classroom system facilities in tertiary institutions in Ekiti State.
2 Determine the level of application of virtual classroom system by the lecturers of Business Education in tertiary institutions in Ekiti state.

Research Questions.

1. What is the availability of virtual classroom system facilities in tertiary institutions in Ekiti State?
2. What is the level of application of virtual classroom system facilities in tertiary institutions in Ekiti State?

Research Hypothesis

A null hypothesis was formulated and tested at 0.05 level of significance.

H_0: There is no significant relationship between virtual classroom system and students' academic performance in tertiary institutions in Ekiti State.

Methodology

The description survey design was used for the conduct of the study. The population of the study consisted of all lecturers in the department of vocational and technical education and Office Technology and Management where business education domiciled in Ekiti State tertiary institutions. These institutions include Ekiti State University, Ado Ekiti (7), Federal University of Oye, Oye Ekiti (5), Bamidele Olomilua University of Education, Science and Technology Ikere Ekiti (10) and Office Technology and Management department, Federal Polytechnic, Ado Ekiti. (13). There are 35 lecturers in these departments. The entire elements of the population were used for the study because of the manageable size of the population. The instrument used was a structured questionnaire titled: "Virtual Classroom System Questionnaire on Students' Academic Performance. (VCSQSAP). The Questionnaire of 15 items based on the purpose of the study and the research questions. The instrument was validated by three experts from the department of vocational and technical education and test and measurement, Ekiti State University, Ado Ekiti. A pilot study was conducted at Federal University, Oye Ekiti in order to establish the reliability of the instrument. Cronbach Alpha was used to determine the reliability of the instrument which yielded a reliability coefficient of 0.87. Each of the question item was assigned four response options of High Extent (VHE-4 points), High Extent (HE-3points) Low Extent (LE-2points) Very Low Extent (VLE- 1)

Results

Research Question One

To what extent are virtual classroom software system available for instructional delivery in tertiary institutions in Ekiti State?

Table 1 **Mean and Standard Deviation of responses on the level of availability of virtual classroom software system in tertiary institution in Ekiti State**

S/N	Item Statements	X	SD	Remark
1	Coursera	3.71	0.55	VHE
2	Enriched Model	3.80	0.56	VHE
3	3P Learning	3.66	0.63	VHE
4	Learning Management Ecosystems	3.82	0.41	VHE
5	Fully Virtual Classroom	3.60	0.73	VHE
6	Skillshare	3.50	0.82	VHE
7	MOOC	3.71	0.55	VHE
8	Khan Academy	3.72	0.56	VHE
9	Docebo	3.80	0.56	VHE
10	Breakout Rooms	3.62	0.70	VHE
11	Moodle	3.67	0.64	VHE
12	Kahoot	3.66	0.63	VHE
13	Edmodo	3.80	0.56	VHE
14	Distance Learning	3.71	0.55	VHE
15	Google Classroom	3.83	0.42	VHE
Weighted average		**3.70**	**0.59**	**VHE**

Source: Field Survey, 2024

Table 1 revealed that the responses of lecturers on the availability of virtual classroom software system in tertiary institution in Ekiti State. The result showed that all the virtual classroom platforms system outlined were available to very high extent with a weighted average mean of 3.70. All the 15 items have standard deviation scores ranging from 0.41 to 0.82. This implies that the responses of the respondents are not widely spread as they are close to the means. This implies that virtual classrooms system is available to very high extent in tertiary institutions in Ekiti State.

Table 2 **Mean and Standard Deviation of responses on the level of application of virtual classroom software system in tertiary institution in Ekiti State**

S/N	Item Statements	X	SD	Remark
1	Coursera	3.71	0.55	VHE
2	Enriched Model	3.80	0.56	VHE
3	3P Learning	3.66	0.63	VHE
4	Learning Management Ecosystems	3.82	0.41	VHE
5	Fully Virtual Classroom	3.60	0.73	VHE
6	Skillshare	3.50	0.82	VHE
7	MOOC	3.71	0.55	VHE
8	Khan Academy	3.72	0.56	VHE
9	Docebo	3.80	0.56	VHE
10	Breakout Rooms	3.62	0.70	VHE
11	Moodle	3.67	0.64	VHE
12	Kahoot	3.66	0.63	VHE
13	Edmodo	3.80	0.56	VHE
14	Distance Learning	3.71	0.55	VHE
15	Google Classroom	3.83	0.42	VHE
Weighted average		**3.70**	**0.59**	**VHE**

Source: Field Survey, 2024

Table 2 revealed that the responses of lecturers on the application of virtual classroom software system in tertiary institution in Ekiti State. The result showed that all the virtual classroom platforms system outlined were utilized by the lecturers to a very high extent with a weighted average mean of 3.70. All the 15 items have standard deviation scores ranging from 0.41 to 0.82. This implies that the responses of the respondents are not widely spread as they are close to the means. This implies that virtual classrooms system is available to very high extent in tertiary institutions in Ekiti State.

Testing of Hypothesis

H_0: There is no significant relationship between virtual classroom system and students' academic performance in tertiary institutions in Ekiti State.

Table 3: Correlation analysis of virtual classroom system and students' academic performance in tertiary institutions in Ekiti State.

Variable	N	Mean	SD	Df	Cal r-value	P-value	Decision
Virtual Classroom system	35	3.03	0.84	33	1.972	0.236	Rejected
Students' Academic Performance	35	2.77	0.94				

P<0.05 alpha level

Source: Field Survey 2024

Table 3 revealed that the calculated r-value of 1.972 while p-value (0.236) is lesser than the significance level of 0.05 for 33 degrees of freedom. Thus, the hypothesis which state that there is no significant relationship between virtual classroom system and students' academic performance in tertiary institutions in Ekiti State was rejected. This means that there is significant relationship between virtual classroom system and students' academic performance in tertiary institutions in Ekiti State.

Discussion of Findings

This finding of this study regarding the level of availability of virtual classroom system facilities in tertiary institutions in Ekiti State? Showed that respondents agreed that virtual classroom software facilities identified were available for utilization by the lecturers for enhanced students' academic performance in tertiary institution in Ekiti State. The identified virtual classroom platforms include: courser, enriched model, 2p learning, learning management ecosystems, fully virtual classroom, skillshare, MOOC, khan academic, docebo, breakout rooms, Moodle, kahoot, edmodo, and Google classroom. The findings of this study were in agreement with the finding of Omosidi, Ajao & Ahmed (2024) who identified the level of availability of virtual classroom facilities and found out that virtual classroom facilities are available in university of Ilorin for teaching and learning process. Similarly, Adeoluwa, & Omodara (2019) also conducted their study and found out that virtual classroom system was adequately available for teaching and learning activities in tertiary institutions in Ekiti State.

The findings of this study regarding the level of application of virtual classroom system by the lecturers in tertiary institutions in Ekiti State? Showed that respondents agreed that virtual classroom software facilities identified were utilized by the lecturers for enhanced students' academic performance in tertiary institution in Ekiti State. The identified virtual classroom platforms include: courser, enriched model, 3p learning, learning management

ecosystems, fully virtual classroom, skillshare, MOOC, khan academic, docebo, breakout rooms, Moodle, kahoot, edmodo, and Google classroom. The findings of this study were in agreement with the finding of Timya and Duktur (2023) who identified the level of application of virtual classroom facilities by the lecturers of business education and found out that virtual classroom facilities are required by the lecturers of business education and they were fully utilized for teaching and learning process in tertiary institutions offering business education courses in Plateau State. The findings of this study were also supported by the study conducted by Aina, & Omidiji, (2019) who opined that virtual classroom system was utilized by lecturers of business education in tertiary institutions in Ekiti State. In a similar study conducted by Agboeze, (2012), the study showed that lecturers of business education have changed from conventional method of instructional delivery to virtual classroom system in tertiary institutions of learning.

The findings on the hypothesis revealed that there is a significant relationship between virtual classroom system and students' academic performance in Ekiti State tertiary institutions. This is because students were able to utilize courser, enriched model, 2p learning, learning management ecosystems, fully virtual classroom, skillshare, MOOC, khan academic, docebo, breakout rooms, Moodle, kahoot, edmodo, and Google classroom for submission of assignment and collaborative learning. This finding is in consonance with the submission of Omosisi, Ajao & Ahmed (2024) who opined that there is a positive relationship between virtual classroom system and students' academic performance in University of Ilorin. Similarly, the findings are also in agreement with the finding of Anekwe (2017) who discovered positive relationship between virtual classroom and students' learning. The findings of this study also agreed with the finding of Adebayo (2019) whose study revealed that there was a positive significant relationship between e-learning and students' academic performance in secondary schools in Ilorin, Kwara State.

Conclusion

Based on the findings of this study, it is sufficient to conclude that, students' academic performance needed total overhauling as employers of labour remarked that they were not employable. This has necessitated the need for alternative solutions for the full adoption of virtual classroom system in Nigeria's tertiary institutions of learning. Thus, institutional management and lecturers must optimize the full adoption of virtual classroom system in tertiary institutions in Nigeria. All relevant stakeholders must ensure the implementation of policies that will ensure the adoption and development of virtual classroom system in the educational domain.

Recommendations

Based on the findings and conclusion of the study, the following recommendations were made:

1. Business educators should be up to date on the application and utilization of virtual classroom system software for instructional delivery.
2. Business education lecturers should be sent on regular training on the usage of identified virtual classroom software and platforms for up skilling of the facilitator.
3. There is need for government to provide policy that will direct and guide virtual classroom system infrastructure development where virtual classroom technological devices should be provided for both students and lecturers.

References

Adebayo, S. (2019). Effects of E-Learning Tools on Students, Academic Performance in Secondary Schools in Ilorin Metropolis, Nigeria. *Journal of Library Science Education & Learning Technology*. 1(1), 25-35.

Adeoluwa, O. V. & Omodara, O. D. (2019) Effects of Videotape Instructional Package on the Achievement of SSII Students in Graphics Design in Ekiti State. *International Journal of Research and Design in Technical, Vocational Education and Training*. 3(1), 1-6.

Adeoye, I. A, Adenikin, A. F. & Adenikin, A (2020) COVID-19 and E-learning in Nigeria tertiary education system experience. *International Journal of Research and Innovation in Applied Science (IJRIAS)*, 5(5), 28-39.

Aina, M. A. & Omidiji, S. A. (2019): Improving the Use of E-Learning for Improved Learning Outcome among Business Education Students in Public Tertiary Institutions in Ekiti State. *International Journal of Research and Design in Technical, Vocational Education and Training*. 3(1), 164-170.

Agboeze, A (2012) Evaluation of E-learning program versus traditional lecture instruction for Undergraduate nursing students in faculty of nursing, Teaching and Learning in Nursing, 6(2), 50-58

Ibukun, F. A. & Akinwamide, T.K. (2023), Actualising inclusive Education through Exit Slips: A Catholicon to Classroom Marginalization in the twenty first Century. *Multidisplinary Journal of Arts and Language education*. (MJALE) 4(1), 1-8

Ogwunte, P. C., Agburuga, V.& Abung, G, O. (2023) Availability and Utilization of Digital Resources for Entrepreneurship skills acquisition in business Education in Universities in River State. *Nigeria Journal of Business Education.* 10(2), 84-92.

Omidiji, S. A., Abiodun, S. A. & Olatunji, R. O. (2023), Harnessing Potentials of Artificial Intelligence for Teaching and Learning Office Technology and Management Programme in Tertiary Institutions in Ekiti State. *Multidisplinary Journal of Arts and Language Education*. (MJALE) 4(1), 1-8.

Omosidi, A. S. Ajao, R. L. & Ahmed, R. O (2024) Virtual Classroom System and Students' Academic Performance in University of Ilorin. *Ilorin Journal of Business Education (IJBE)* 6(1), 85-95.

Timya, N. N. & Duktur, S. L. (2023) Interactive Digital Technology Skills Required for Virtual Teaching and Learning of Business Education Courses in Tertiary Institutions in Plateau State. *Nigeria Journal of Business Education.* 10(2), 111-120.

Uzo-Okonkwo N, Abaekih, I S. & Okafor, C. V. (2020) Integrating E-Learning into the teaching of Business Education Courses in Colleges of Education. Delta Business Education Journal (DBEJ) 10(1), 204-210.