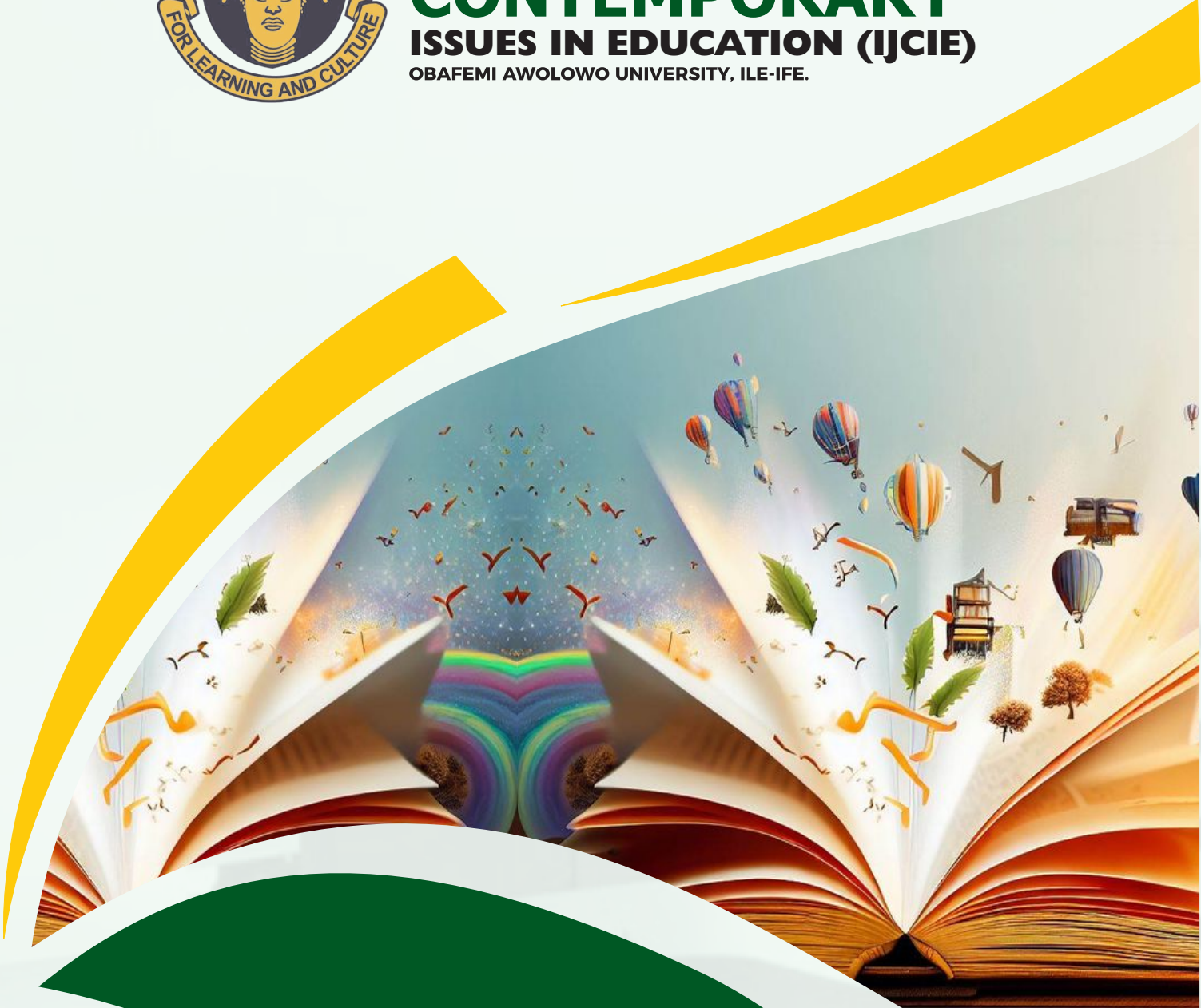




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ASSESSMENT OF LECTURERS' INTERNET SKILLS AND E-LEARNING ACCEPTANCE IN COLLEGES OF EDUCATION IN OSUN STATE

OYENIRAN OYETOLA

Department of Educational Technology and Library Studies,
Obafemi Awolowo University, Ile-Ife, Nigeria

Abstract

The significance of e-learning to higher education has demanded that lecturers should possess adequate digital skills that could be employed in the adoption of e-learning tools to teaching activities. Unfortunately, majority of lecturers in Colleges of Education in Nigeria still find it difficult in adopting e-learning tools to instruction delivery and this might have been caused by the internet skills and acceptance of e-learning among lecturers. This study therefore identified the internet skills possessed by lecturers as well as their acceptance of e-learning in Colleges of Education in Osun State. It investigated the relationship between lecturers' internet skills and their acceptance of e-learning. A descriptive survey research design was adopted with a population of 605 lecturers selected across 3 Colleges of Education in Osun State that were purposively chosen. Twenty lecturers were selected from each of the colleges of education using the convenience sampling technique. Two research instruments were adapted to gather information on lecturers' acceptance of e-learning as well as the internet skills possessed by lecturers. Findings showed that the lecturers possessed the following internet skills; operational skills (85.10%), information navigation skills (78.65%), social skills (81.75%), mobile skills (78.50%) and creative skills (66.15%). In the overall, lecturers' acceptance of e-learning was rated excellent (77.37%). Lastly, the study indicated that there was a significant relationship between lecturers' internet skills and their acceptance of e-learning ($F_{(1,58)} = 5.10; p < 0.05$). In conclusion, there was a positive correlation between the internet skills possessed by the lecturers of Colleges of Education in Osun State and their acceptance of e-learning.

Keywords: Assessment, Internet Skills, e-learning, Colleges of Education, Lecturers, Acceptance.

Introduction

The advent of internet has continued to have notable influence and impact on all facets of human endeavours and it has become the most reliable source of information and the fastest means of communication. The unique feature of the internet has given users all over the world the opportunity to connect with each other irrespective of geographical location and distance barrier. The International Telecommunication Union (ITU; 2023) reported that there has been significant increase in the number of internet users worldwide from 3.7 billion to approximately 5.4 billion between 2018 and 2023. This growth is an indication of the remarkable roles the internet plays in human activities and how it has brought revolution to communication and access to information thereby surpassing other means of communication like the telephone and television in many ways.

Notably in the field of education, the internet has become a vital tool for effective transfer of instruction and efficient means of communication in the process of teaching and learning (Abass et.al., 2021). Today, the internet is an indispensable asset in higher institutions of learning such as colleges of education in facilitating the training of students and enhancing students' learning outcomes (Ali, 2020). According to Vlachopoulos and Makri (2019), the internet has been found useful in several facets of school work such as sourcing for relevant information on a topic, project or talk and enhancement of lecturers' and students' communication. Furthermore, the internet has made it possible to develop and implement online learning modes of instruction delivery where students and lecturers understanding of learning material is promoted (Mishra et al. 2020). In addition, Emeka and Nyeche (2016) asserted that the internet provides numerous academic opportunities such as research collaboration, information distribution and serves as a medium

of interaction and connection among academics across the globe. However, despite the numerous benefits derived from the adoption of internet in academic activities in higher institutions of learning, developing nations like Nigeria is still lagging behind compared to other developed countries of the world that have effectively accepted and implemented internet into the various academic engagements (Babate & Bege, 2019).

Noteworthy, the establishment of colleges of education in Nigeria was a response to the need for trained and certified teachers to address the shortage of qualified teaching staff in the country. The philosophy underlying teacher education at the colleges of education, according to Olafare, Lawrence and Fakorede (2017), was to ensure consistency in content and educational standards of the country. The goal also focused on the production of qualified teaching personnels with standard and professional ethics, discipline, integrity, dedication, appropriate skills, and intellectual capability, who could help in achieving the national objectives of education with ease. To achieve these objectives, Omolade (2022) posited that the Nigerian government decided that the National Certificate in Education (NCE) will become the minimum entry requirement into the teaching profession at the primary and secondary levels in the country. Also, the National Commission for Colleges of Education has recognised the crucial importance of lecturers in developing and acquiring relevant digital skills. To this effect, lecturers in colleges of education in Nigeria were mandated to possess requisite literacy and proficiency in digital skills particularly in the use of internet, and the ability to integrate ICT into classroom activities to enhance students' learning (Karofi, 2025).

In recent years, the Nigeria tertiary educational system has witnessed a significant transformation due to the rapid advancement in technology. One of the prominent developments in this digital era is the emergence of e-learning, which generally refers to the utilization of electronic devices and the internet to facilitate learning and instructional activities. E-learning offers numerous benefits such as flexibility, accessibility, convenience, openness and enhanced engagement, making it a viable alternative to traditional face-to-face mode of

instruction delivery (Coussement et. al, 2020). Furthermore, Kuo et. al. (2014) posited that e-learning tools are applied in the process of instruction delivery to support and aid students' participation, collaboration and learning autonomy by creating a flexible constructivist learning environment for students thereby promoting teaching effectiveness. Interestingly, e-learning system has proven to be a viable approach that could be adopted to mitigate the challenges of staff shortage, increased population of students, limited teaching and research resources, and issues with time and space combating higher educational system (Wang, et. al., 2021) in which Nigeria is not exempted.

Eze et.al. (2020) noted that e-learning is one of the notable technologies driven innovations that serves as an alternative and reliable IT-based platform through which learners can have access to an inclusive learning environment compared with the popular conventional learning approach. Consequently, many tertiary educational institutions, including Colleges of Education in Osun State Nigeria, have adopted e-learning to meet the diverse needs of students and enhance the quality of education especially during the period of COVID-19 pandemic that ravaged the world which led to a shift from conventional classroom teaching to e-learning mode of instruction. However, the successful implementation and acceptance of e-learning depend on various factors, such as the internet skills of the lecturers.

Internet skills have been widely given both standardised and empirical operational definitions. Van Deursen and Van Dijk (2016) conceptualised internet skills multidimensionally to capture internet skills that are mediumly related, internet applications that are basically and technically characterised, content aspect of the internet skills and the skills required for effective and efficient application of online contents. Furthermore, Van Deursen and Van Dijk (2010) modified internet skills definition to capture operational, formal information, substantial information and strategic skills respectively. Operational internet skills are the set of skills basically needed in navigating internet technology; formal internet skills are required for active representation and placement in an online community. Information internet skills are

required to search for relevant information on a subject matter online while strategic internet skills are the enablement to reaching particular goals for the improvement of an individual and society at large through the internet (Van Deursen & Van Dijk, 2016). The findings of a study conducted by Van Deursen and Van Diepen (2013) revealed the existence of four internet skills and were sequentially related. The study presented that operational skills are needed as prerequisite for the possession of formal, information and strategic skills though information skills are required for strategic internet skills.

Globally, different studies have been carried out regarding technology acceptance with particular reference to e-learning technologies. Cheng (2011) affirmed that individual, social and institutional factors can influence the attitude towards the acceptance of e-learning system. Also, the findings of Nanayakkara (2007) cited in Nicholas-Omoregbe et.al. (2017) revealed that individual perception towards e-learning and the organizational factors are the cogent determinants that predicts e-learning acceptance in higher educational institutions in New Zealand. Maina and Nzuki (2015) conducted a study in Kenya using some selected higher institutions. The focus of the study was to investigate the determinants of e-learning acceptance based on the influence of social influence, performance and effort expectancies as well as facilitating conditions using the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The results of the study presented that expected performance, enabling infrastructures, institutional policies, training support and ease of use influenced the acceptance e-learning Management System.

Purpose of the Study

This study assessed the lecturers' internet skills and acceptance of e-learning in colleges of education in Osun State. The specific objectives are to:

- (i) identify the internet skills possessed by the lecturers in colleges of education in Osun State;
- (ii) investigate the lecturers' acceptance of e-learning; and
- (iii) determine the relationship between the

lecturers' internet skills and their acceptance of e-learning.

Research Questions

- (i) What are the internet skills possessed by the lecturers in colleges of education in Osun State?
- (ii) What is the lecturers' acceptance of e-learning?

Hypothesis

Lecturers' internet skills have no significant relationship with their acceptance of e-learning in the study area.

Methods

The research design adopted was a descriptive survey. All the lecturers in colleges of education in Osun State Nigeria constituted the population. The sample selected for the study was **60 lecturers**. The multistage sampling procedure was used in selecting the sample. Three colleges of education were purposively selected based on ownership. Twenty lecturers were selected from each of the colleges of education using convenience sampling technique. Two research instruments were employed to gather data for the study. These instruments are: Lecturers' E-learning Acceptance Questionnaire (LEAQ) which assessed the lecturers' E-learning acceptance and Lecturers' Internet Skills rating scale (LISRS) was used to elicit information on lecturers' possession of internet skills.

The face validity of the instruments was carried out to ascertain the readability, language of construction of items and clarity of the instruments' items. Likewise, the content validity was done to assess the clarity, directionality, suitability and arrangement of items of the instruments. Split-half method was employed in determining the reliability of the instruments conducted by administering the instruments on lecturers that were not included in the sample. Cronbach-alpha analysis on LEAQ gave 0.71 while LISRS gave 0.92. Data collected were analysed using appropriate descriptive and inferential statistical tools.

Results

Research Question One: What are the internet skills possessed by the lecturers in colleges of education in Osun State?

This question was raised to achieve objective (i) of the study. Items 1 – 23 of the Section B of the LISRS were used to gather information on the internet skills possessed by the lecturers on five subscales. Items 1 – 5 measured operational Skills, items 6 – 10 measured information navigation skills, items 11 – 15 measured social skills, items 16 – 20 measured creative skills while items 21 – 23 measured mobile skills. The LISRS was developed on a 4-point Likert scale of Strongly Agree, Agree, Disagree and Strongly Disagree. Strongly Agree was scored 4, Agree was given a score of 3, Disagree was scored 2 and

Strongly Disagree had a score of 1. Items not responded to were score 0. The items in each of the subscale were collapsed to determine the total score obtained in the subscales. The maximum score obtainable for each of the Operational Skills, Information Navigation Skills, Social Skills and Creative Skills was 20 while the maximum score obtainable for Mobile Skills was 12. Mean and standard deviation of the skills were obtained. The mean was express as percentage. The scores were categorized such that scores between 0% – 39% were categorized as poor, 40% – 49% were categorized as fair, 50% - 59% were categorized as average, 60% to 65% were categorized as good, 66% - 74% were categorized as very good while 74% and above were categorized as excellent. The result is presented in Table 1.

Table 1: Mean, Standard Deviation and Percentage of the Respondents' scores on the identified internet skills of the lecturers

Skills	Mean	Std. Deviation	Percentage	Remark
Operational	17.02	4.11	85.10	Excellent
Information Navigation	15.73	3.72	78.65	Excellent
Social	16.35	3.77	81.75	Excellent
Creative	13.23	3.78	66.15	Very Good
Mobile	9.42	2.47	78.50	Excellent

Table 1 presents the mean, standard deviation as well as the mean expressed as a percentage of the maximum obtainable score. The mean and standard deviation of the scores obtained by the lecturers in Operational Skills were 17.02 and 4.11 respectively. The mean expressed as percentage is 85.10%. For the Information Navigation Skills, the mean and standard deviation were 15.73 and 3.72 respectively. Expressing the mean as percentage produced 78.65%. The mean and standard deviation of the lecturers' Social Skills gave 16.35 and 3.77 respectively. The mean translated to 81.75%. The mean and standard deviation of the Creative Skills were 13.23 and 3.78 respectively. The mean corresponded to 66.15% while the mean and standard deviation of the Mobile Skills were 9.42 and 2.47 respectively. The mean gave 78.50%. Applying the Rule of Thumb, the Operational, Information Navigation, Social,

Creative and Mobile Skills of the lecturers are excellent while the lecturers' Creative Skill is very good.

Research Question Two: What is the lecturers' acceptance of e-learning?

This question was raised to achieve objective (ii) of the study. Items 1 – 23 of Section B of the LEAQ elicited information on the lecturers' acceptance of e-learning. Scoring was done on the scales of 4, 3, 2, and 1 to strongly agree, agree, disagree and strongly disagree respectively. A score of zero was given to items not responded to. The total scores obtained by the lecturers were also determined. The maximum obtainable score for the LEAQ is 92. Mean and standard deviation of the lecturers were obtained. The result is presented in Table 2.

Table 2: Lecturers' acceptance of e-learning in Osun State colleges of education

Group	N	Minimum	Maximum	Mean	Standard deviation	Percentage	Remark
Lecturer	60	46.00	89.00	71.18	8.14	77.37	Excellent

Table 2 presents the mean, standard deviation as well as the mean expressed as a percentage of the maximum obtainable score. The mean and standard deviation of the score obtained by the lecturers in LEAQ showing the lecturers' acceptance of e-learning were 71.18 and 8.14 respectively. Expressing the mean as percentage gives 77.37%. The mean was expressed as percentage. The scores were categorized such that scores between 0% – 39% were categorized as poor, 40% – 49% were categorized as fair, 50% - 59% were categorized as average, 60% to 65% were categorized as good, 66% - 74% were categorized as very good while above 74% were categorized as excellent. Applying the Rule of Thumb, the result showed that the lecturers' acceptance of e-learning was excellent.

Hypothesis: Lecturers' internet skills have no significant relationship with their acceptance of e-learning in colleges of education in Osun State. This hypothesis is formulated to determine if there is relationship between lecturers' internet skills and their acceptance of e-learning in the Colleges of Education in Osun State. The total score of the lecturers in LISRS was determined by adding the scores obtained in each of the items together. The same was done for the LEAQ to obtain the lecturers' acceptance of e-learning. Regression analysis was conducted to determine the type of relationship and extent of the relationship. The result is shown in Table 3.

Table 3: Regression Analysis of the relationship between Internet Skills and Lecturers' acceptance of e-learning

Model		Sum of Squares	df	Mean Square	F	Sig.	R	Adjusted R ²
1	Regression	315.922	1	315.922	5.103	.028 ^b	0.28	0.065
	Residual	3591.062	58	61.915				
	Total	3906.983	59					

a. Dependent Variable: Acceptance

b. Predictors: (Constant), Internet Skills

Table 3 shows the result of the regression analysis. The correlation $R = 0.28$ and $R^2 = 0.065$. The regression result ($F_{(1,58)} = 5.103$; $p < 0.05$) showed that there was a significant relationship between lecturers' internet skills and their acceptance of e-learning. This implies that there is a slight positive correlation and that the relationship accounted for 6.5% of the variables. The hypothesis which state that lecturers' internet skills have no significant relationship with their acceptance of e-learning in colleges of education in Osun State is therefore rejected. This indicates that there is a significant relationship between the lecturers' internet skills and their acceptance of e-learning.

Discussion

The first objective of the study identified the internet skills possessed by lecturers in colleges of education in Osun state. The findings revealed that lecturers had excellent skills in the operational, information navigation, social, creative and mobile Skills while the lecturers' creative skill was very good. These findings are similar with that of Eromosele (2019) which revealed high possession of Information and Communication Skills among lecturers in two selected universities in southwestern, Nigeria. Also, the findings are related with that of Castaño-Muñoz et al. (2017) which presented high digital competence among participants in MOOC and Soyemi et al. (2018) revealed lecturers' possession of advanced digital skills.

The result of the second objective of the study revealed that lecturers in colleges of education in Osun state had excellent acceptance of e-learning. The finding correlates with the findings of Kisanga (2016) which revealed that teachers had positive attitude to e-learning technology. Also, this result is in line with that of Taat and Francis (2020) which shows that students' level of acceptance of e-learning was high at a teacher education institute in Malaysia.

Furthermore, the result of the third objective indicated that colleges of education lecturers' internet skills have significant relationship with their acceptance of e-learning. The finding connects with that of Gökçearsan (2017) who reported a correlation between acceptance of tablets and self-directed learning. The findings of Gökçearsan (2017) further revealed a high correlation between perceived usefulness, perceived ease of use and behavioural intention, and a moderate correlation between attitudes towards online learning and self-directed learning.

Conclusion

The study concluded that there was a positive correlation between the internet skills possessed by the lecturers of Colleges of Education in Osun State and their acceptance of E-learning.

Recommendations

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

- (i) seminars and workshops focusing on the development of creative skills should be organized for lecturers in colleges of education in Osun State;
- (ii) authorities concerned should provide an enabling environment for easy adoption of e-learning to instruction delivery by lecturers; and
- (iii) regular assessment should be carried out to upgrade lecturers' internet skills.

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