

PERCEPTION AS A KEY FACTOR FOR EFFECTIVE INTEGRATION OF E-LEARNING MODE IN NORTH-EAST PUBLIC UNIVERSITIES IN NIGERIA.

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Abstract

This study investigated the perception of undergraduate students on the integration of electronic learning mode in public universities in North East, Nigeria. Two research questions and one hypothesis guided the study. The study adopted a descriptive survey research design. The population for the study was 188272 undergraduate students from public the universities in North East, Nigeria. The sample size comprised of 384 undergraduate students drawn from 14 public universities located in the North-East geopolitical zone of Nigeria, using multistage sampling technique. A structured questionnaire validated by experts, was used for data collection. Reliability coefficients of the instrument were determined using Cronbach alpha values with a coefficient of .74. Data analysis employed a descriptive statistics and Mann-Whitney U tests, at a significance level of $p < 0.05$. The findings revealed that undergraduate students in public universities in North East, Nigeria exhibited favourable perception on integration of e-Learning Mode (eLM), highlighted a positive attitude towards the integration of digital learning tools in their academic experience. Amongst others, it was recommended that universities should design gender-sensitive strategies that specifically address the needs of male students, who may need additional support or encouragement in embracing eLM.

Keywords: Perception, e-learning and Integration.

Introduction

The emerging trends in the world's education system require that teaching and learning should be improved through the use of electronic technologies. Universities in Nigeria need not to be relegated from the advent of this educational globalisation approach. Integration of online teaching and learning becomes more effective solution to address the challenges undermining the standards of the universities in the North-Eastern region of the country.

University is a tertiary institution that provides the type of education which is obtained after secondary education. It is the highest level of educational institution that produces graduates of Degrees, Masters, and Doctorates. According to (FGN 2014), the objectives of the universities in Nigerian higher education, including professional education have the following aims: the acquisition, development, and inculcation of the proper value orientation for the survival of the individual and society; the development of the intellectual capacities of individuals to understand and appreciate the Nigerian environment; the acquisition of both physical and intellectual skills which will enable individuals to develop into useful members of the community. This implies that university education is crucial for sustainability as well as contributing to national development. In this vein, universities award certificates of character and learning.

E-learning, also called electronic learning or online learning, is a mode of learning that takes place electronically, via the Internet. With e-learning, learners can access learning from any location, at any time or place, as long as they have access to a device and a Wi-Fi or data connection. However, the perceptions of the students towards the e-learning mode need to be considered for better implementation of the system in the North-East Public universities. According to National Universities Commission (2023), emerging global trends have necessitated the integration of e-learning into the process of teaching and learning. The recent revolution in Information and Communications Technology (ICT) has opened tremendous opportunities for improving pedagogies in higher education institutions. In Nigeria, the trends that characterise higher education such as the need to widen access to university education, the demand for graduates who are globally fit for the technological demands of 21st Century workplace, the need to build resilient education systems against future disruptions like COVID-19, have made e-learning inevitable in higher education. The current global educational landscape has been inundated with a plethora of ICT-enabled educational infrastructure and solutions including Open Educational Resources (OER), Massive Open Online Courses

(MOOCs), Learning Management Systems (LMS), Virtual Learning Environments (VLE), Virtual Laboratories, and Collaborative platforms. These resources are expected to increase access to university education and improve the effectiveness and quality of delivery in teaching, learning, and research. In many developing countries, online learning has emerged suddenly and has become a big challenge, especially in having trained teachers who are ready to face all the changes that are headed their way (UNESCO, 2020). In spite of the challenge, the aforementioned advantages made e-learning a suitable option for better operations in North-Eastern public universities in the country.

Perceptiveness can be described as views and understanding of a concept that influences behaviour towards the reality of the concept. Michotte (2019) and Septinawati, *et al.* (2020) established that perception is a step of the total action process that helps us to adapt our behaviour to the environment we live in. Perception is an individual's view of other people who play a role in his life and can be one of the determining factors for success, which also applies to students (Corbin *et al.*, 2020). Similarly, Hadi *et al.* (2017) opined that perception is a process of assigning meaning to inputs and feelings experienced by people and is highly affected by both internal and external variables. Perceptivity has to do with the cognitive views and feelings of an individual towards what he interacts with. Percipience is characterised by how the mental ability of an individual connects with realities. Perception creates an opportunity to establish contact with real objects from the outside world (Naydenov *et al.*, 2023). This implies that perceptivity has a significant role to play in terms of human contact with the real world. It also facilitates the method of acquiring facts about something to give it meaningful understanding, and to be able to attach value to it. In regards to learning, the perception of a learner may lead to engaging the ego to admit, participate, learn, and appreciate a particular concept which could yield a positive learning experience.

Gender difference as a moderator variable plays a very crucial role in the use of e-learning platforms in institutions. Most institutions comprised of male and

female gender basically, and it is important to consider how gender differences affect use of e-learning in universities, as in this study. Studies indicate that female students, particularly in certain cultural contexts, may face more limited access to technology at home compared to male counterparts. These limitations may stem from traditional gender roles that assign women more domestic responsibilities, which could hinder their ability to engage with e-learning platforms effectively (Al-Shammari *et al.*, 2020). This implies that some female students may have less access and time to engage more on the online platforms as they are mostly shouldered with responsibilities of making the home, cooking, taking care of the children and more of domestic activities, especially in African tradition. Similarly, a study by Ruel *et al.* (2021) highlighted that female student, even when facing challenges in access or digital literacy, often report a higher level of motivation and persistence in completing online courses compared to their male peers. This implies that female students tend to engage more on the online platforms. This could be for the reason that females are having much free time than males, as males are more engaged in businesses, sport activities, farming and more.

Statement of the Problem

In the current Nigerian government's dispensation, problems in the higher institutions such as; inadequate infrastructural facilities, inadequate staff, inadequate library facilities, student overpopulation, insurgencies, poor student-teacher ratio, outdated books, insecurity, poor research materials, improper record keeping, and many more, could lead to the use of e-learning mode, to realise improved and effective learning experiences. However, the conscious understanding of the students towards this technological invention in education are indispensable factors in this new trend. Harake & Amal (2022), are of the view that students' attitudes toward learning may have an impact on the efficacy of an online learning model and their academic achievement in the universities. Students' requirements and preferences about e-learning may be better understood with the help of this research, which could help in improving the quality of teaching and learning. Students'

perception is so important to learning and achievement. Online learning developers and providers need to learn more about how students see and react to various aspects of e-learning, as well as how to best employ these approaches to improve learning.

However, there is still a lack of research on factors affecting students' use of e-learning in universities. Students seemed to have had unpleasant experiences during their online learning. How can we find out why they had negative experiences? Was it the learner's fault? Or was it the program? Did the instructor play a role? Is online education perceived differently by students depending on their own experiences? Did they receive online education that they are satisfied with or dissatisfied with? What elements have an impact on students' online learning experiences? All of these concerns led to the current study and its analysis into the Perceptions of Undergraduate Students in North-East Public Universities in Nigeria, towards integration of e-Learning Mode.

Purpose of the Study

The main purpose of the study was to investigate perception of undergraduate students on the integration electronic learning mode in public universities in North East, Nigeria. Specifically, the study sought to;

1. determine the Perceptions of Undergraduate Students on Integration of e-Learning Mode (eLM) in North-East Public Universities in Nigeria.
2. assess the Perceptions of Undergraduate Students on Integration of e-Learning Mode (eLM) in North-East Public Universities in Nigeria, based on gender.

Research Questions

The study was guided by the following research questions:

1. What is the Perception of Undergraduate Students on Integration of e-Learning Mode (eLM) in North-East Public Universities in Nigeria?
2. What is the Perception of Undergraduate Students on Integration of e-Learning Mode (eLM) in North-East Public Universities in Nigeria, based on gender?

Hypotheses

The null hypothesis was tested at 0.05 alpha significant levels:

H₀₁: There is no significant difference in the Perception of Undergraduate Students on Integration of e-Learning Mode (eLM) in North-East Public Universities in Nigeria, based on gender.

Methods

The study adopted a descriptive survey research design. The design is suitable for the study because it allows collection of data where large population is involved. The population for this study consists of all 188,272 undergraduate students enrolled in public universities across the North-East geopolitical zone of Nigeria. The sample size of this study comprised of 384 undergraduate students from the 14 public universities located in the North-East geopolitical zone of Nigeria, representing the six states: Gombe, Bauchi, Borno, Yobe, Adamawa, and Taraba. In order to achieve the objectives of this study, the researcher developed an instrument titled the E-Learning Mode Perception Questionnaire (ELMPQ) to collect data from the respondents. The questionnaire was a closed-ended one where respondents are restricted to pick one response from opinions proposed from four scale responses. A total of 384 questionnaires were provided to the respondents as it was the total number of samples for the study. In constructing this instrument, A four scale was used for rating responses to the items on the questionnaire. The scale was ranked 1 for Strongly Disagree (SD), 2 for Disagree (D), 3 for Agree (A), and 4 for Strongly Agree (SA). The instrument used for data collection was validated through expert review. The instrument was placed under face and content validity. Attention was placed to fundamental issues on which the research is embarked. Drafts of the instrument were given to two experts in Educational Management and one from Educational Test Evaluation and Measurement, all from department of Educational Foundations, Faculty of Education, Federal University of Kashere. These experts critically evaluated the instrument for clarity, relevance, alignment with the study objectives, and the appropriateness of the items in capturing students' perceptions

regarding e-learning mode integration. Their feedback was incorporated to refine the questionnaire, ensuring its validity and suitability for effectively collecting reliable data. The overall reliability coefficient of the instrument was 0.74, which indicated that the items fall between good to excellent reliability. For data analysis, first, descriptive statistics was used to analyse the data collected for the research questions to describe patterns, trends, and central tendencies in students' perceptions regarding e-learning mode integration. Secondly, inferential statistical tools, specifically the Mann-Whitney U test was employed to test the hypothesis.

Results

Table 1: Mean and Standard Deviations of Undergraduate Students' Perception on the Integration of eLM in North-East Public Universities in Nigeria.

S/N	Statements	N	\bar{X}	SD	Decision
1	I have an idea of e-learning technology.	384	3.79	0.67	Strong Perception
2	I have necessary technical skills for e-learning.	384	3.64	0.81	Strong Perception
3	e-learning is very useful to my study.	384	3.71	0.74	Strong Perception
4	I find e-learning mode very easy.	384	3.71	0.79	Strong Perception
5	e-learning mode enhances my performance.	384	3.65	0.76	Strong Perception
6	I learn faster through e-learning mode.	384	3.50	0.96	Strong Perception
7	I received adequate training and practice on e-learning platforms.	384	3.59	0.87	Strong Perception
8	e-learning mode improves my learning experience.	384	3.57	0.91	Strong Perception
9	e-learning mode saves money and energy.	384	3.57	0.86	Strong Perception
10	I am comfortable using technology for learning.	384	3.63	0.83	Strong Perception
	Grand Mean	384	3.64	0.82	Strong Perception

Key: \bar{X} = Mean, SD= Standard Deviations, N=Number in samples, and Decision mean=2.50

Table 1 displayed the mean and standard deviation of respondents' perceptions regarding the use of eLM in North-East Public Universities in Nigeria. The finding revealed that the mean responses for each item ranged from 3.50 to 3.79, consistently surpassing the decision mean of 2.50. The cumulative mean for all ten items was 3.64. Hence, both the individual item means and the cumulative mean exceeds the decision mean which indicate a general agreement among respondents. Moreover, the standard deviation among respondents ranged from 0.67 to 0.96, with a cumulative standard deviation of 0.82, suggesting minimal deviation in respondents' perceptions from each other and from the group's standard deviation

mean. Therefore, Undergraduate Students of North-East Public Universities have strong perception on the integration of eLM.

Table 2: Mean Rank and Sum of Ranks of Undergraduate Students' Perception on the integration of eLM in North-East Public Universities in Nigeria, based on gender.

Groups	N	Mean Rank	Sum of Ranks	Difference
Male Perception	188	171.80	32298.50	40.55
Female Perception	196	212.35	41621.50	

Table 2 presented the mean ranks and sum of ranks to analyse the difference in the perception of Undergraduate Students' use of the e-learning mode (eLM) based on gender. The mean rank for males was 171.80 (SR = 32,298.5), while for females, it was 212.35 (SR = 41,621.5). This indicates a 40.55-point difference in perception between the two groups, suggesting a noticeable variation in how male and female students perceive the use of eLM. The finding revealed a gender-based difference in the perception on e-learning mode integration among Undergraduate Students, with females demonstrating a higher mean rank compared to males. This suggests that female students may have a more favourable perception of eLM usage compared to their male counterparts.

Table 3: Mann-Whitney U test on the significant difference in the Perception of Undergraduate Students on the integration of eLM in North-East Public Universities in Nigeria, based on gender.

Variables	N	Mean Rank	Sum of Ranks	Df	χ^2	Asymp. Sig.	Decision
Male	188	171.80	32298.50	2	-3.66	.000*	Rejected
Female	196	212.4	41621.50				

Key: N: Number in samples, df: degree of freedom, χ^2 : Mann-Whitney U test Chi-square

Table 4.9: Mann-Whitney U test was conducted to determine the significant difference in the Perception of Undergraduate Students on the Use of eLM in North-East Public Universities in Nigeria, based on gender. The result showed that there was a statistically significant difference between the perception of male undergraduate students and female undergraduate students, $\chi^2 (2) = -3.66, p = .000$,

$p < 0.05$). Therefore, the null hypothesis, which suggests no significant difference in perception between the genders is rejected. The finding revealed that there is a statistically significant difference between the perception of male undergraduate Students and that of females on the Use of eLM in North-East Public Universities in Nigeria.

Discussion

The findings from research question one, which indicated that undergraduate students in North-East Public Universities in Nigeria have a strong perception on the integration of e-Learning Mode (eLM), highlighted a positive attitude toward the integration of digital learning tools in their academic experience. This strong perception suggested that students view eLM as a valuable and effective approach to education, likely due to its convenience, accessibility, and potential for enhancing their academic performance. The finding also suggested that students are increasingly receptive to the digitalization of education, recognizing the benefits of flexible learning environments that e-learning offers. As such, this positive perception provides a solid foundation for further expansion of e-learning initiatives in the region as students are well-prepared to engage with and benefit from future technological advancements in the educational system.

This finding is consistent with the study by Maphosa (2021), which demonstrated that factors such as performance expectancy, effort expectancy, and facilitating conditions positively influenced students' behavioural intentions to use e-learning platforms like Moodle. In Maphosa's study, students expressed a positive perception of online learning, acknowledging its potential despite challenges such as the unavailability of technology and the high cost of data. Similarly, the strong perception of e-learning use found in this study suggested that North-East undergraduate students recognize the value of digital learning, viewing it as an essential aspect of modern education. This aligns with the broader trend identified by Maphosa, where students, despite encountering some barriers, see e-learning as the future of teaching and learning. Such a perspective highlights the growing

acceptance of e-learning modes among students, reinforcing the importance of investing in the infrastructure and resources necessary to support these platforms.

The findings from research question two revealed a notable gender-based difference in the perception on eLM integration, with female undergraduate students demonstrating a higher mean rank compared to their male counterparts. This suggested that females in North-East Public Universities in Nigeria have a more favourable view of e-learning, potentially due to factors such as greater engagement with digital tools, higher levels of motivation, and perceived eLM expectations. The statistically significant difference found through the null hypothesis test further emphasized that gender plays a crucial role in shaping students' attitudes towards eLM usage. This result is significant as it highlights the need for gender-sensitive approaches in the design and implementation of e-learning initiatives. These further stresses the fact that both male and female students are equally supported in their digital learning journeys.

Understanding these gendered perceptions can help universities adapt their e-learning strategies to address specific needs and preferences, thereby enhancing the overall effectiveness of e-learning use across different student groups. This finding aligns with the earlier study by Mahajan and Kalpana (2018), which reported that nearly all students use the internet daily, with female students demonstrating higher internet usage compared to males. Similarly, the higher mean rank for female students in the perception of e-learning mode use in this study suggested that women may be more comfortable and engaged with digital technologies. Mahajan and Kalpana's findings accentuated the notion that higher internet usage among females could translate into a greater familiarity and positive attitude towards online learning platforms. This supported the idea that gender differences in technology usage can influence perceptions of e-learning, reinforcing the need for gender-sensitive strategies in the use of e-learning tools in educational settings.

The results from both studies highlighted the importance of understanding gender-based dynamics to optimize e-learning initiatives and ensure equitable access and engagement for all students.

Conclusion

Based on the findings of the study, it was concluded that perception is a very key to the integration of e-learning mode in the North-East Public universities in Nigeria. Gender, is also identified as key factor that significantly affect perception of undergraduate students as regards integration of eLM, and should be considered for proper integration of eLM in North-East Public universities in Nigeria.

Recommendations

Based on the findings of this study, the following recommendations were made: Since female students demonstrated a more favourable perception towards eLM integration, universities should design gender-sensitive strategies that specifically address the needs of male students, who may need additional support or encouragement in embracing eLM. This can include targeted workshops, mentoring, and resources to boost male students' engagement with eLM platforms.

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