Experiences, challenges and acceptance of e-learning by adult learners in sandwich programme of Nnamdi Azikiwe University Awka, Nigeria

Obiageli Chinyelu Chukwuemerie∗**, Eunice Akpan, Perpetua Ukamaka Okoye**
Department of Adult and Continuing Education, Nnamdi Azikiwe University Awka, Nigeria
*oc.chukwuemerie@unizik.edu.ng

Abstract

This study investigated the experiences, challenges and acceptance of e-learning by adult learners in the Sandwich programme of Nnamdi Azikiwe University, Awka. Descriptive survey research design was adopted. The population of study comprised all 381 adult learners offering Sandwich Programmes in the 2021/2022 Session in the Faculty of Education, Nnamdi Azikiwe University, Awka was also the sample size. Three research questions guided the study. Data for the study were collected by means of a validated structured questionnaire titled "Questionnaire on E-Learning by Adult Learners" (QEAL) designed in google form format. Cronbach's Alpha values of 0.89, 0.78 and 0.89 for clusters I – III were obtained after testing for reliability. Mean and standard deviation were used to analyze data. The findings revealed that adult learners had pleasant experiences of e-learning in sandwich programmes of Nnamdi Azikiwe University in the 2021/2022 Session; and faced some challenges that included unstable internet connectivity, technical problems during online classes and difficulties associated with practical courses in distance learning. Nevertheless, adult learners highly accepted e-learning after their exposure to a higher level of e-learning in the 2021/2022 academic session by the Sandwich programme in Nnamdi Azikiwe University, Awka. It was recommended amongst others that the management of Nnamdi Azikiwe University should invest more in e-learning by way of upgrading their ICT architecture and organize more trainings on adaptation to e-learning for their adult learners that are still lagging behind and for fuller and more profitable utilization of the innovations in the Qverse learning management system.

INTRODUCTION

E-learning is fast becoming a necessity for continuous learning at every level of education globally. Breakthroughs in information communication technology (ICT) heralded the adoption of e-learning. Earlier e-learning emerged to boost distance learning of adults through correspondence courses, radio and television lessons. It later metamorphosed to virtual learning through the internet. E-learning models keep evolving and getting more sophisticated. They are being adopted or adapted as the case might be in order to foster continuous learning in a troubled world laden with so much interruption of academic activities due to industrial strikes, insecurity in the system that brought about agitations inimical to peaceful co-existence and consequent sit-at-home orders that has taken away Mondays as school/work days in most major cities in Anambra State and other South Eastern States of Nigeria. E-learning has

become a veritable tool for getting even busy adults to engage in continuing education. Institutions of learning have embraced various degrees of e-learning platforms in a bid to make for more inclusivity of the adult citizens in the scheme of things. These researchers observed that Nnamdi Azikiwe University (NAU) Awka in Anambra State of Nigeria is blazing the trail in digitalization of its products. It recently took a giant stride in adopting and implementing Qverse learning management system (LMS) in her Sandwich programme of 2021/2022 Session.

The introduction of the LMS programme in the NAU sandwich programme was met with what these researchers perceived to be mixed feelings among both lecturers and adult learners as was observed from their respective social media platforms. Interestingly, the director of Sandwich Unit NAU, Dr. Constance Ifeyinwa Okoli, (as reported in [1]), stated in a one-day workshop organized by the unit on Tuesday 20th June 2023, that despite the resistance from some quarters, sandwich unit ran a successful hybrid teaching, learning and examination for the 2021/2022 session. Alonta also reported that the Vice Chancellor of NAU, Prof. Charles Okechukwu Esimone, announced in the same event that the sandwich programme of the university would continue to be run online lectures and examinations of students. Given the reluctance, hues and cries that greeted the programme at inception, it becomes necessary to get feedback from participants in order to make for improved services in future endeavours. Although the learners, lecturers, sandwich unit management and staff are among key stakeholders, the sandwich adult learners are in the center of it all. Hence this study, which sought to investigate the experiences, challenges and acceptance level of e-learning by adult learners in NAU Sandwich programmes.

E-learning is learning conducted via electronic media, especially via the internet. Agumuo [2] sees the use of e-learning as the use of network technology to design, deliver, select, administer and extend learning. E-learning involves the process of providing instructions which are delivered through an electronic media [3]. It involves the use of ICT which include computer networks, communication and mobile technologies to enhance and extend learning. Operationally, e-learning is an electronically supported learning and teaching which are procedural in character and aim to affect the construction of knowledge with reference to individual experience, practice and knowledge of the learner. The concept of e-learning has been considered by different authors in various perspectives. Yelland and Tsembas [4] considered e-learning as a broader concept than online learning due to the fact that the former uses electronic devices that are detached and do not depend on being online. Such devices include videos, CD ROMS, slides and photographs. This implies that whereas online learning basically depends on computer networks for delivering instruction, with a connection to computer networks by users in all cases, e-learning moves beyond network connectivity to the use of electronic devices that are used offline. E-learning is also seen as an educational means that involves technology, communication, efficiency and self-motivation [5].

E-learning technology is one of the bi-products of Information and Communication Technology (ICT). In Nigeria, recent developments and awareness of the government on ICT have opened an opportunity for new experiences, new challenges and new levels of acceptance. Firstly, the adoption of e-learning in delivering distance education (DE) for educating a vast mass of uneducated or less educated Nigerians is a new experience [6]. National Universities Commission (NUC) has provided ICT facilities to all federal universities known as National Universities Network (NUNet). Considering the recent awesome expansion of the ICTs awareness in the country, National Open University of Nigeria (NOUN) introduced some modern ICT like e-mail, web-based learning (e.g. open course wares), CD-ROM for delivering its course materials through e-learning for its learners [7], [8]. Some other universities started adopting e-learning in some measures. Nnamdi Azikiwe University (NAU) Awka was not left out. Some of her examinations such as those for General Studies (GS) courses and some general education courses for students of the Faculty of Education are written using a computer in what is called Computer Based Tests (CBTs).

Interestingly, the sandwich unit of NAU took e-learning to a higher level by adopting a learning management system (LMS) powered by Qverse which enabled both online teaching, learning and examination, thus affording a greater fulfillment of the objectives of sandwich programmes. Sandwich unit offers various courses leading to the award of Bachelor Degree in Education

during Easter and long vacation periods. The programme has nine departments across the Faculty of Education. During the 2021/2022 session, the unit began the use of e-learning to facilitate teaching and learning processes using the Qverse LMS. As has been reported earlier, NAU has cemented e-learning as another session has already started with LMS. This move is in line with Kamba [9] where it was disclosed that in the nearest future educational programs by electronic means will cover from 40 to 50 percent of learning time in Nigerian universities. Unfortunately, the adoption of LMS does not give immunity against common challenges faced in adopting anything electronic in Nigeria due to epileptic power supply and poverty. According to Olasina [10], learning in an electronic environment is a serious challenge in Nigeria because of so many factors. At this time due to many negative factors in the economy, Nigeria could not afford broad access to all the latest achievements available for education, as well as enable new educational technologies and e-learning to be widely used in universities. Part of these negative factors included difficulties with computers and Internet access, electricity, in adequate skills and low literacy [7]. These challenges can affect learners' experiences. A negative and unpleasant experience is capable of discouraging further participation while a pleasant experience is capable of boosting participation and acceptance of an innovation. Besides, when people do not accept a phenomenon that is forced on them, especially in a learning situation, it is difficult for them to make the best of it. Therefore, it is important to investigate the level of acceptance too.

These researchers observed what appears like a lack of Qverse LMS acceptance in a preliminary informal inquiry. The seeming low acceptance of e-learning could also be as a result of numerous challenges encountered. According to Olasina [10], learning in an electronic environment is a great challenge in Nigeria because of so many factors. At this time due to many negative factors in the economy, Nigeria could not afford broad access to all the latest achievements available for education, as well as enable new educational technologies and e-learning to be widely used in universities. Part of these negative factors included difficulties with computers and internet access, electricity, in adequate skills and low literacy [7]. In the recent past, the educational sector in Nigeria witnessed

a critical shortage of appropriate teaching materials and a very ineffective system for digital learning resources creation, storage and maintenance. Both the teaching corps and learning cadres were largely untrained in the effective use of ICTs in the educational process but today, seem to have started to change for the better.

Some other previous studies within and outside Nigeria identified mass unawareness, low computer literacy level and high cost of internet as critical factors affecting the acceptability of e-learning by adult students [11]–[13]. More so, e-learning places high demand on learners who have to be more proactive and disciplined than in traditional face-to-face education. This may not be feasible for adult learners who may need to attend to various other issues and are chunked with daily activities. Determining the challenges encountered by learners would provide the platform for finding solutions that will minimize hitches and glitches in implementation of LMS in NAU. It is therefore necessary to gauge the experiences, challenges and levels of acceptance by the stakeholders towards better services. Clearly, researchers have investigated similar issues across the globe among teachers and learners but to the best of this researchers' knowledge, none has considered the variables in question the way this study sought to do among adult learners that participated in the 2021/2022 Sandwich programme of NAU.

Purpose of the study
The main purpose of the study is to determine the experiences, challenges and level of acceptance of e-learning by adult learners in sandwich programmes in Nnamdi Azikiwe University, Awka. Specifically, the study seeks to determine: (1) The experiences of e-learning by adult learners in sandwich programme in Nnamdi Azikiwe University; (2) The challenges of e-learning by adult learners in sandwich programme in Nnamdi Azikiwe University; (3) The level of acceptance of e-learning by adult learners in sandwich programme in Nnamdi Azikiwe University.

Significance of the study
The findings of this study would be of benefits to adult learners, lecturers, university administrators, Government and stakeholders. Among other things, the challenges faced by adult learners in adapting to e-learning would be

identified. Lecturers would know the problems militating against the effective application of e-learning in the university and seek for solutions. University administrators would be better guided on the areas and measures they can put in place to make for a better experience for all concerned towards improved academic performances of students. The outcome of the study would give impetus to sponsorship of research into e-learning by non-governmental and governmental agencies in Nigeria. It is also hoped that this study will be a contribution to knowledge as it will contribute to existing literature on learning management systems therefore it can be referred to in the course of further research.

The study is delimited to only the experiences, challenges and acceptance of e-learning by adult learners in sandwich programmes in Nnamdi Azikiwe University.

Research questions

The following research questions guided the study: (1) What were the experiences of e-learning by adult learners that participated in the 2021/2022 online teaching and learning in sandwich programmes of Nnamdi Azikiwe University?; (2) What were the challenges faced by adult learners that participated in the 2021/2022 online teaching and learning in sandwich programme of Nnamdi Azikiwe University?; (3) What were the Nnamdi Azikiwe University Sandwich unit adult learners' level of acceptance of e-learning after their exposure to e-learning in the 2021/2022 academic session?

RESEARCH METHOD

The descriptive survey research design was adopted for the study which was carried out in Nnamdi Azikiwe University, Awka. The population of study comprised all 381 adult learners offering Sandwich Programmes in the 2021/2022 in the Faculty of Education, Nnamdi Azikiwe University, Awka. This figure was derived from the Records Unit of the Sandwich Office, 2023. The researcher considered the population size to be manageable. Therefore, there was no sampling.

Data for this study were collected by means of a structured questionnaire developed by the researcher. The instrument was titled "Questionnaire on E-Learning by Adult Learners" (QEAL). The instrument is built on two sections; A and B. Section A contains the demographic profile of the respondents. Section B is sub-divided into three clusters. Cluster I contained 6 items on the experiences of e-learning by adult learners; cluster II addressed 8 items on the challenges of e-learning by adult learners. The instrument was rated on a 4-point Likert scale of Strongly Agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SD) with values 4, 3, 2 and 1 respectively. Cluster III contained 10 items on the level of acceptance of e-learning by adult learners. The instrument was rated on a 4-point Likert scale of Not Accepted (NA); Accepted (Ac) Highly Accepted (HA) and Very Highly Accepted (VHA) with values 4, 3, 2 and 1 respectively.

The reliability of the instrument was determined through trial testing. Copies of the instrument were administered to 20 CEP students in Nnamdi Azikiwe University, Awka who were not part of the study population. The data collected were analyzed using Cronbach Alpha. Alpha values obtained after data analysis were 0.89, 0.78 and 0.89 for cluster I–III using SPSS and the instrument was deemed reliable.

The administration of the instrument was carried out online through the use of google form to construct the questionnaire. A link to the online questionnaire was shared amongst respondents to the general whatsApp platform of Sandwich adult learners. The link was accompanied with a write-up explaining that the link is an online questionnaire that requires their responses. This method is to facilitate higher response rate and easy access to adult learners offering Sandwich programmes. It was expected that 381 respondents would attempt the online questionnaire but only 340 responses were obtained. This gives a retrieval rate of 89% and was used for data analysis.

Arithmetic mean was used to analyze data related to the four research questions posed and standard deviation was used to determine the homogeneity or otherwise of the respondents' mean scores. The mean ratings were interpreted using criterion mean. Mean value of 2.50 and above means that such item is agreed/highly accepted while mean score of 2.50 below means that such item is disagreed/not accepted.

The benchmark of 2.50 was derived by adding the rating scales divided by its numbers.

$$\text{Benchmark} = \frac{4+3+2+1}{4} = 2.5$$

The analysis was done with the application of a computer software programme called Statistical Package for Social Sciences (SPSS) Version 23.

RESULT AND DISCUSSION

The results of the three research questions are presented below in their corresponding tables.

Table 1. Respondents' mean and standard deviation ratings on the experiences of e-learning

Items on the experiences of e-learning by adult learners	M	SD	Remarks
a. At the onset, I was not comfortable with the online course but I later adjusted	3.74	0.55	A
b. E-learning instruction has improved my ability to easily learn	2.59	0.75	A
c. The online course design permits me to learn at my own speed	3.48	0.81	A
d. We were able to do our theoretical courses online without any problem	3.54	0.71	A
e. I found online examination easier than the physical classroom examination	3.29	0.68	A
f. I learnt some technical skills which has improved my studying efficiency	3.21	0.88	A
g. I experienced more distraction learning online than when it is in traditional face-to-face class	2.92	1.13	A
h. I found it easier to learn on my own from online classes	2.95	0.91	A
i. It is easier to brainstorm with my colleagues after I am being taught online through social media platforms	2.53	0.65	A
Cluster Mean	3.06		A

Note: M= mean, SD= standard deviation, A= agree.

Table 1 reveals the item by item analysis of the experiences of e-learning by adult learners that participated in the 2021/2022 online teaching and learning in sandwich programmes of Nnamdi Azikiwe University, Awka. The result revealed that all items (a–i) with their respective mean scores of 3.74, 2.59, 3.48, 3.54, 3.29, 3.21, 2.92, 2.95, and 2.53 were rated "agreed" by adult learners. The cluster mean of 3.06 summarized that adult learners had a pleasant experience of e-learning in sandwich programmes of Nnamdi Azikiwe University for the 2021/2022 session. The standard deviation scores ranging from 0.55–1.13 shows that adult learners do not vary too much in their ratings.

Table 2. Respondents' mean and standard deviation ratings of challenges faced by adult learners

Items on the challenges of e-learning by adult learners	M	SD	Remarks
a. I usually encounter unstable internet connectivity	3.19	0.68	A
b. I always encounter technical problems when it is time for my online class	3.08	0.65	A
c. I feel with online classes, I am being faced with heavy/plenty workloads	2.51	0.69	A
d. I feel that most instructors taking us online courses are unskilled towards technological usage	2.29	0.62	D
e. Most instructors have a negative attitude towards teaching online	2.31	0.59	D
f. The level at which instructors interact with me is lower compared to the traditional face-to-face class	2.45	0.62	D
g. There is usually the difficulty of applying distance learning for practical courses	2.55	0.66	A
Cluster Mean	2.63		A

Note: M= mean, SD= standard deviation, A= agree, D= disagree.

Table 2 shows the item by item analysis of challenges faced by adult learners that participated in the 2021/2022 online teaching and learning in sandwich programme of Nnamdi Azikiwe University, Awka. The result revealed that items d, e, and f with their respective mean scores of 2.29, 2.31 and 2.45 were rated disagreed by adult learners while items a, b, c, and g with their respective mean scores of 3.19, 3.08, 2.51 and 2.55 were rated agreed by adult learners. The cluster mean of 2.63 means that adult learners agreed on the challenges faced in the 2021/2022 online teaching and learning in sandwich programme in Nnamdi Azikiwe University, Awka. The standard deviation scores ranging from 0.59–0.69 shows that adult learners do not vary too much in their ratings.

Table 3 reveals the item by item analysis of adult learners' level of acceptance of e-learning after their exposure to e-learning in the 2021/2022 academic session in Nnamdi Azikiwe University, Awka. The result revealed that item c with mean score 2.33 was not accepted by adult learners while items a, b, d, e, f, g, h, and i with their respective mean scores of 3.12, 3.21, 3.46, 3.3, 3.43, 3.19, 2.63 and 2.57 were rated highly accepted by adult learners. The cluster mean of 2.99 means that adult learners highly accepted e-learning after their exposure to e-learning in the 2021/2022 academic session in Nnamdi Azikiwe University, Awka. The standard deviation scores ranging from 0.48–0.77 shows that adult learners do not vary too much in their ratings.

Table 3. Respondents' mean and standard deviation scores of adult learners on the level of acceptance of e-learning

Items on the acceptance of e-learning by adult learners	M	SD	Remarks
a. I prefer Learning Management System (LMS) by sandwich unit because lecturers are considerably faster as there are no interruptions	3.12	0.53	HA
b. I performed better with e-learning as I heard lecturers attesting that there was no noise	3.21	0.48	HA
c. With the use of LMS, I study more diligently because I must pass the quiz to go to the next session	2.33	0.56	NA
d. E-learning has made lectures more simplified and easier to understand so I want us to continue with it	3.46	0.50	HA
e. Qverse LMS is accepted because it is easy to learn with	3.30	0.61	HA
f. LMS can be controlled as I can start wherever I stopped	3.43	0.65	HA
g. With the advent of e-learning, work is clear and understandable	3.19	0.71	HA
h. I prefer LMS to the old order of only physical classes	2.63	0.77	HA
i. I am satisfied with e-learning through Qverse LMS	2.57	0.72	HA
Cluster Mean	2.99		HA

Note: M= mean, SD= standard deviation, HA= highly accepted, NA= Not Accepted.

Discussion of findings

Summary of findings: (1) Adult learners had a pleasant experience of e-learning in sandwich programmes of Nnamdi Azikiwe University for the 2021/2022 session; (2) Adult learners agreed to the listed challenges faced in the 2021/2022 online teaching and learning in sandwich programme in Nnamdi Azikiwe University; (3) Adult learners highly accepted e-learning after their exposure to e-learning in the 2021/2022 academic session in Nnamdi Azikiwe University.

The finding in research question one revealed that adult learners had a pleasant experience of e-learning in sandwich programmes of Nnamdi Azikiwe University for the 2021/2022 session. From the analysis of the responses to the questions posed, adult learners were able to adjust to e-learning; learnt more easily on their own from online classes; did their theoretical courses without any problem; learnt at their own speed; found online courses examination easier than physical classroom examination; learnt some technical skills that have improved their efficiency; found it easier to brainstorm with friends in social media after being taught online; even though they experienced more distractions learning online than when it is in traditional face-to-face class. This finding supported the finding of Zalat, Hamed, and Bolbol [14] that staff members agreed that the technological skills of giving online courses increase the educational value of the experience of the college staff. Ziggah, Eshun, and Mahama [15] also found that adult learners had a good experience as they perceived online learning to be beneficial to their academic growth and progress.

Additionally, the finding in research question two revealed that adult learners agreed they faced some of the challenges listed in the 2021/2022 online teaching and learning in sandwich programme in Nnamdi Azikiwe University, Awka. Unstable internet connectivity, technical problems when it is time for online class; heavy workloads; difficulty of applying distance learning for practical courses are the challenges learners face. Adult learners did not agree to the lecturers' related challenges. The findings agreed with that of Zalat et al. [14] that the highest barriers to e-learning were insufficient/ unstable internet connectivity (40%), inadequate computer labs (36%), lack of computers/ laptops (32%), and technical problems (32%). This

finding also supported the findings of Olasina [10] that students' technical skills and e-learning/m-learning infrastructure they have access to are not adequate to meet e-learning/m-learning requirements. More so, the finding supported the finding of Ifijeh et al. [16] that majority of the respondents (54%) identified inadequate internet access as the biggest challenge to students' use of e-learning platforms. Indeed, it is important to note that the success of every online learning situation depends on the availability of technological equipment and its accessibility. Lack of accessibility to learning platforms due to poor connectivity and related challenges are major hindrances that are capable of affecting acceptance of e-learning.

Kibuku, Ochieng, and Wausi [17] presented a literature review of e-learning challenges faced by universities in Kenya and from their analysis identified some of the challenges to include lack of adequate e-learning policies, inadequate ICT infrastructure, the ever evolving technologies, lack of technical and pedagogical competencies and training for e-tutors and e-learners, lack of e-learning theory to underpin the e-learning practice, budgetary constraints and sustainability issues, negative perceptions towards e-learning, quality issues, domination of e-learning aims by technology and market forces and lack of collaboration among the e-learning participants. Although their study is on a wider scale, aspects of their findings are in tandem with the findings of present study on challenges and acceptance of e-learning. Adequate infrastructure is needed for e-learning to thrive.

The finding on research question three revealed that adult learners highly accepted e-learning after their exposure to e-learning in the 2021/2022 academic session in Nnamdi Azikiwe University, Awka. Adult learners highly accepted all items except item 19 - 'I study more diligently because I must pass the quiz to go to the next section'. The researchers do not understand why respondents do not accept this item. Perhaps, they do not want to be subjected to any quiz at all but these researchers are greatly in support of retaining that feature in the LMS as it forces students to sit up and apply due diligence to study. Fortunately, the respondents still preferred LMS by sandwich unit as their high acceptance to the rest of the items which included: Lecturers are considerably faster as there are no interruptions; I performed better with e-learning

as I heard lecturers clearly and there was no noise; e-learning has made lectures more simplified and easier to understand so I want us to continue with it; and with the advent of e-learning, work is clear and understandable. This finding agreed with the finding of Zalat et al. [14] that the rate of participant agreement on perceived usefulness, perceived ease of use, and acceptance of e-learning was (77.1%, 76.5%, and 80.9% respectively). This finding also agreed with that of Aboki et al. [18] that Performance Expectancy (PE) and Effort Expectancy (EE) positively influence the use of ICT for learning among the students. This amounts to acceptance. The implication of the foregoing is that NAU management should go the extra mile to sustain the LMS of Sandwich unit.

CONCLUSION

The study concluded that adult learners in sandwich programmes of NAU Awka were not comfortable with online courses at the onset but ended up having pleasant experiences as online courses permitted them to learn better and at their own speeds in the 2021/2022 Session. The study further concludes that the challenges faced by adult learners included unstable internet connectivity, technical problems during online classes and difficulties associated with practical courses in distance learning. Nevertheless, adult learners highly accepted e-learning after their exposure to a higher level of e-learning in the 2021/2022 academic session by the Sandwich programme in Nnamdi Azikiwe University, Awka.

Based on the findings of this study, it was recommended as follows. First, the management of Nnamdi Azikiwe University should as a matter of urgency, invest more in e-learning by way of upgrading their ICT architecture and organizing more training on e-learning for both students and lecturers. Second, as Nnamdi Azikiwe University intends to carry on with LMS for sandwich programmes, a series of trainings through workshops and seminars should be carried out for stakeholders by the institution in order to carry everyone along in the implementation of e-learning. Particular emphasis should be laid in explaining the benefits of passing a quiz on a section before being granted access to another. Third, adult learners should plan their programmes well in order to be in locations of least internet connectivity problems when they

want to access their lecturer materials and particularly during their examinations. Fourth, sandwich unit management should do all to ensure that the right standards are maintained across board in order to sustain the acceptance by adult learners.

Suggestions for further studies are as follows. First, this study should be replicated to access the experiences, challenges and acceptance of e-learning among sandwich lecturers that participated in the LMS e-learning programme. Second, a literature review of the challenges and the extent of utilization of e-learning facilities in institutions of higher learning in Nigeria can be done.

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