Exploring university lecturers’ mandatory e-learning attitudes, readiness and anxiety in Nigeria

Ezinne Orie Idika and Adaobiagu Nnemdi Obiagu

Department of Social Science Education, Faculty of Education, University of Nigeria, Nsukka, Nigeria, and

Ebere Ibe

Department of Science Education, Faculty of Education, University of Nigeria, Nsukka, Nigeria

Abstract

Purpose – This study investigated university lecturers' attitudes, readiness and anxiety toward e-learning in response to the widespread transition to online education prompted by the COVID-19 pandemic and the interrelationships between these variables using a sample drawn from Nigeria.

Design/methodology/approach – The sample consisted of 168 university lecturers in Nigeria, comprising 94 males and 74 females. A questionnaire assessing university lecturers' attitudes, readiness and anxiety toward e-learning was administered to collect data. Descriptive, t-test and regression analyses were conducted to analyze the collected data.

Findings – The findings revealed significant correlations among lecturers' e-learning attitudes, readiness and anxiety. Specifically, significant relationships were observed between lecturers' e-learning attitudes and readiness, lecturer's e-learning readiness and anxiety, as well as lecturers' e-learning anxiety and e-learning attitudes. Moreover, a notable difference was detected in the mean scores of e-learning attitudes between male and female lecturers, indicating that male lecturers exhibited more positive e-learning attitudes compared to their female counterparts. Additionally, male lecturers reported lower levels of e-learning anxiety and demonstrated higher readiness to embrace e-learning compared to female lecturers.

Research limitations/implications – The COVID-19 pandemic posed significant limitations for this study. Firstly, due to restrictions on in-person interactions and mobility, conducting a pilot study was not feasible, which may have impacted the refinement of our methodologies. Additionally, the number of participants was limited as a result of challenges in recruitment and accessibility during the pandemic, potentially affecting the generalizability of our findings. Future research efforts should aim to mitigate these constraints and consider alternative methods for data collection to enhance the robustness of the results. Another research implication is the need to explore, through a qualitative approach, the lecturer’s use of e-learning and perception of the process, outcome and needs or areas of improvement. This could unearth deeper issues that threaten the effective transition to and use of e-learning by higher education teachers.

Practical implications – Overall, our findings illuminate the importance of targeted policy and practice interventions to address attitudes, readiness and anxiety among lecturers, facilitating the successful implementation of e-learning initiatives within Nigerian higher education institutions.

Social implications – The study underscores implications for e-learning integration, emphasizing the importance of considering various human and social factors alongside technical aspects.

Originality/value – This study adds to the existing literature by examining the level of lecturers’ attitudes, readiness and anxiety toward the adoption of mandatory e-learning in schools and how these variables relate to drawings on a Nigerian sample.

Keywords Anxiety, University lecturers, E-learning, Attitudes, Readiness

Paper type Research paper

Introduction

E-learning is formalized learning delivered via electronic gadgets (e.g. computers, phones, televisions and radio), software and the Internet. E-learning is shown to enhance students' motivation, interest and engagement in learning (Kim and Frick, 2011; Martin and Bolliger, 2018). E-learning is one of the means that support the educational process and transforms it
from the traditional stage to the stage of creativity, interaction and skills development, combining all forms of electronic learning (Howaida and Manahill, 2023). E-learning is instruction facilitated by technology, designed to enable a learner to achieve a specific learning goal without the learner and the instructor needing to be in the same physical location (O’Neill, 2023). It promotes the administration of learning and contributes to the efficient use of time (de Raadt and Dekeyser, 2009). Indeed, numerous studies have underscored the academic advantages of e-learning among students in higher education institutions compared to traditional classroom settings (Holley, 2002; Ibe et al., 2021). The global proliferation of e-learning has been particularly accentuated by the COVID-19 pandemic, which has prompted an unprecedented shift towards online education. However, it is crucial to acknowledge that the adoption and utilization of e-learning vary across different countries and educational contexts.

E-learning has gained significant traction in developed countries due to its perceived benefits and the existence of conducive e-learning environments. However, research indicates that the adoption of an e-learning environment involves considerations beyond technical aspects; it encompasses various human and social factors as well (McPherson and Nunes, 2004). An e-learning-friendly environment is characterized by the provision of resources and support necessary for effective teaching and learning. In contrast, developing countries are yet to fully integrate e-learning into their education systems, primarily due to various challenges hindering its widespread adoption. These challenges include the high cost of technological devices (Homan and Macpherson, 2005; Li and Irby, 2008), limited information and communications technology (ICT) knowledge among teachers and lecturers (Chipidza and Leidner, 2019; Warschauer, 2004), unreliable power supply (Ajadi et al., 2008; Idika et al., 2023) and financial constraints (Tarus et al., 2015; Idika et al., 2023). Addressing these challenges is crucial for enhancing the utilization of e-learning in developing countries across different levels of education.

In addition to the aforementioned challenges, the global COVID-19 pandemic has spurred widespread advocacy for the integration of e-learning into educational systems worldwide. This has led to calls for the implementation of policies mandating the use of e-learning in schools, as evidenced by initiatives such as the National Policy on ICT in School Education (2012). However, it is important to recognize that the imposition of mandatory e-learning policies can elicit anxiety among lecturers, particularly in regions where challenges associated with e-learning implementation persist, notably in developing countries.

Anxiety, characterized as a pathological extension of normal fear, manifests through disturbances in mood, thoughts, behavior and physiological activity (Adwas et al., 2019). Lecturers may experience heightened anxiety in response to the perceived pressure or inadequacies associated with adopting e-learning methodologies, especially amidst the contextual challenges prevalent in their educational settings. Addressing these anxieties and providing adequate support mechanisms is imperative to facilitate the successful integration of e-learning initiatives in educational institutions worldwide.

The study aimed to assess the levels of lecturers’ attitudes, readiness and anxiety regarding the compulsory implementation of e-learning in schools and examine the interrelationships between these variables using a sample drawn from Nigeria. This research seeks to elucidate the potential impact of mandatory e-learning policies on lecturers’ psychological states, particularly in the context of sub-Saharan Africa where infrastructural and attitudinal barriers to e-learning adoption may be pronounced. By exploring the attitudes, readiness and anxieties of lecturers in response to this policy shift, the study aims to contribute to a deeper understanding of the challenges and opportunities associated with e-learning integration in the region’s higher education landscape. We hypothesize that higher education lecturers are not ready to use e-learning and that they will have a negative attitude towards mandatory e-learning. We further hypothesize that the announcement of mandatory
e-learning adoption in higher education institutions could induce anxiety among lecturers in sub-Saharan Africa due to their perceived unpreparedness towards e-learning. The following research questions guided the study:

(1) What are the disparities in e-learning attitudes, preparedness and anxiety mean scores among female and male lecturers?

(2) How do e-learning preparedness, attitudes and anxiety mean scores differ between lecturers in the sciences and humanities?

(3) How does the e-learning preparedness of university educators correlate with their anxiety levels during the COVID-19 pandemic?

(4) To what extent do lecturers’ attitudes towards e-learning correlate with their anxiety levels regarding e-learning?

(5) What is the collective impact of lecturers’ attitudes and preparedness for e-learning on their anxiety levels during the COVID-19 pandemic?

Literature review

Lecturers’ attitude towards e-learning

Attitude is a function of the likelihood to either perform or accept certain behavior (Hao, 2004; Breckler and Wiggins, 1989; Davis, 1989). Teachers’ attitude to technological development, adoption and implementation is seen as an effective expression of one’s feelings, or appraisal of the technology in question (Davis, 1989). Therefore, it is the extent to which an individual perceives technology as easy to use that ultimately determines their willingness to engage with it (Barki and Hartwick, 1994). Pingle (2011) defines an attitude towards e-learning as encompassing the cognitive processes through which learners perceive, accept, reason, visualize and motivate themselves in the context of e-learning programs. This conceptualization extends to the learner’s adaptation to e-learning environments, considering factors such as innate and learned predispositions, organizational dynamics, cultural influences, social interactions and ecological contexts in which the learner operates. Masalimova et al. (2014) indicated that the measurement of attitudes to e-learning is essential in preparing the teachers for the future. In measuring attitudes, Maio and Haddock (2010) differentiated attitudes to be either explicit (i.e. direct) or implicit (i.e. indirect). Explicit attitudes are concerned with when respondents are directly asked to reflect on and give a report on an attitude while implicit attitude tends to assess and measure attitudes by not asking or seeking for any form of verbal report on the concerned attitude.

Extant literature on attitude has shown that the formation of attitude and changes in attitude are usually construed by three general classes of information: affective information, cognitive information and information concerning either past behaviors or behavioral intentions (Ajzen and Fishbein, 2005; Barki and Hartwick, 1994). Several researchers have shown how these three classes of information contribute to attitude formation and expression. The affective component of attitude in this study is the perceptions, feelings, or emotions linked to e-learning. The cognitive class of attitude to e-learning consists of thoughts, beliefs and attributes associated with e-learning. The evaluative judgment of an object is contingent upon the fusion of affective evaluation, cognitive evaluation and behavioral evaluation. These components, as delineated by Eagly and Chaiken (2007) and Fazio (2007), encompass the affective responses toward the object, the cognitive understanding of the object and the behavioral tendencies related to past experiences with the object. It is plausible that these three facets collectively shape the attitude of university lecturers towards the adoption of e-learning practices.
The literature reviewed grouped factors affecting teachers’ attitudes to technology into two groups namely: internal and external factors (Teo, 2009; Venkatesh et al., 2003). Internal factors consist of a teacher’s internal belief in technology which is shaped usually by the degree the teacher perceives technology which may be positively (favorably) or negatively (unfavorably). On the other hand, the external factors are subjective norms (Ajzen and Fishbein, 1980; Venkatesh et al., 2003), organizational structures (Rogers, 2003), technical factors like complexity of technology (Rogers, 2003; Weller, 2007) and environmental factors like ICT infrastructures (Chien et al., 2014; Teo, 2009). Teachers’ positive or negative attitudes towards e-learning will influence their behavior towards using advanced technological methods in teaching and learning (Venkatesh, 2000). As revealed by Ndume et al. (2008), negative attitude toward e-learning is a result of inadequate understanding, absence of correspondence and little or no trust or clashing agenda on the right use of technology. Instructions and training are needed to create awareness and inculcate a positive attitude toward e-learning among prospective teachers. Liaw et al. (2007) are of the view that “no matter how advanced or capable a technology seems to be, the effective implementation rests on the users’ positive attitude to it.” (p. 1069). Therefore, investigating the attitudes of prospective teachers towards e-learning has a way of defining or explaining how e-learning is utilized (Ong and Lai, 2006).

**E-learning adoption readiness among lecturers**

E-readiness is a major necessity in the implementation of effective e-learning programs in any educational system. Researchers have shown that the implementation of e-learning can succeed only if preceded by measuring the level of readiness for e-learning (Clark and Mayer, 2011). The Online Reporting Specialists (2005) delineates e-learning readiness as a state of being equipped and poised to engage in electronic learning modalities, particularly those facilitated through the Internet. E-learning readiness as described by Rohayani et al. (2015), pertains to an institution’s willingness and preparedness to embrace and integrate e-learning methodologies within its educational framework. This entails among others being mentally and physically set to implement e-learning (Borotis and Poulymenakou, 2004). Moreover, Hashim and Tasir (2014), defines readiness for e-learning as the level of preparedness of institutions to the usage of all aspects of the technology employed before the whole e-Learning environment is applied. Measurement of e-learning readiness enables institutions to design a system that will suitably aid in successful implementation (Oketch et al., 2014).

The learner’s readiness to use e-learning technology is influenced by factors like ability and willingness to use ICT (Vilkonis et al., 2013). According to Kaur and Wati (2004), e-learning readiness is the ability to utilize e-learning resources and multimedia technologies to improve the quality of education received by learners. Existing studies (Hao, 2016a; Demir, 2015; Yurdugül and Alsancak Sırakaya, 2013; Hung et al., 2010; Rovai, 2003) found that e-learning readiness consists of self-efficacies in computers and Internet and online communications, self-directed learning, learner control and motivation towards e-learning.

According to Demir (2015), computer self-efficacy represents the confidence an individual possesses in one’s ability to proficiently utilize basic computer programs. Likewise, Internet self-efficacy, as articulated by Hung et al. (2010), encompasses Internet users’ belief in their proficiency to effectively navigate and utilize online resources and platforms. Additionally, online communication self-efficacy, as elucidated by Demir (2015) and Yurdugül and Alsancak Sırakaya (2013), refers to an individual’s perception of their understanding of communication language and culture in the context of e-learning environments, as well as their capability to express themselves effectively within such settings. According to Demir (2015), self-directed learning entails an individual’s perception of assuming responsibility for their learning process, rather than relying on an external instructor as the primary source of
guidance. In this approach, individuals take on the responsibility of learning autonomously. Additionally, learner control, as described by Shyu and Brown (1992), refers to an individual’s ability to manage their learning experience and dictate the pace of learning according to their preferences and desires.

Motivation for e-learning, a crucial facet of readiness for e-learning as outlined by Demir (2015), encompasses the desire and inclination characterized by physical, cognitive and affective components, which prompt individuals to embrace e-learning modalities. Researchers have demonstrated that these components serve as indicators of individuals’ readiness for e-learning, as noted by Yurdugül and Alsancak Sirakaya (2013). However, Moftakhari (2013) posits that the likelihood of success in e-learning remains minimal as long as the learner’s readiness levels for e-learning are inadequate.

Based on the literature reviewed, the measurement of e-learning readiness factors commonly used is technical, content, human and financial resources (Rohayani et al., 2015). According to Schreurs et al. (2009), e-readiness makes up the e-maturity of any organization and this is seen in the learner’s readiness. This consists of the availability of infrastructure, clear training objectives, trainer support, guidance, knowledgeable leadership, etc. Therefore, e-learning requires not only learners’ readiness but also the trainer and the organization’s need to successfully engage in e-learning devoid of anxiety (Bowles, 2004).

**E-learning anxiety**

Anxiety is construed as a pathological manifestation of normal fear, characterized by disruptions in mood, thoughts, behavior and physiological activity, as delineated by Adwas et al. (2019). Anxiety is a basic human emotion comprising fear and uncertainty that usually comes into play when an individual perceives an action to be a threat to one’s ego (Sarason, 1988). Anxiety disrupts normal cognitive processes, leading individuals to approach materials passively rather than engaging with them actively, as suggested by Ajmal and Saghir (2019). Saadé et al. (2015) and Saadé and Kira (2009) have observed anxiety as comprising emotions of fearfulness, apprehension and uneasiness. In the context of online learning, anxiety can be construed as a fear stemming from the potential misuse of information technology, which may compromise performance. Therefore, e-learning anxiety can be characterized as a state of unease arising from the transition from traditional educational methods to online learning, driven by the necessity to provide education to learners in an online environment.

**Methods**

**Research design**

This study employs a descriptive survey design to explore university lecturers’ attitudes, readiness and anxiety towards mandatory e-learning in a developing country context. Descriptive surveys are particularly suitable for capturing the existing status of phenomena and generating insights into participants’ perceptions and experiences.

The target population consists of all lecturers at the University of Nigeria, Nsukka, which comprises 1,519 lecturers. A sample size of 168 lecturers was selected using random sampling techniques to ensure representativeness and statistical validity. Participants were categorized based on four demographic variables: Gender (Male and Female), Discipline (Science and Non-science), Years of Experience (Group 1: 3–10 years; Group 2: 11–18 years; Group 3: 19–26 years; and Group 4: Above 26 years) and Rank (Group 1: Assistant Lecturer; Group 2: Lecturer II; Group 3: Lecturer I; Group 4: Senior Lecturer; Group 5: Reader; and Group 6: Professor). Please refer to Table 1 for a comprehensive breakdown of participants’ characteristics. Before the commencement of the study, participants were provided with
written consent forms and were duly informed about the research procedures. Upon obtaining consent, the study proceeded accordingly.

**Research instrument and data collection**

The primary data collection instrument is a structured questionnaire titled University Teachers Mandatory e-learning Attitudes, Readiness and Anxiety Scale” and designed by the researcher to capture relevant information on participants’ attitudes, readiness and anxiety towards mandatory e-learning initiatives. The instrument has a biodata section and three subscales: university teachers’ attitudes, readiness and anxiety subscales. The subscales were rated on a 4-point scale (4 = strongly agree to 1 = strongly disagree) and comprised 34 items. Before its implementation in the study, the instrument underwent a rigorous process of face validation by three subject matter experts from the Faculty of Education to ensure its appropriateness and validity. Their task was to evaluate the instrument’s appropriateness, ensuring it measures what it’s intended to and aligns with the research objectives. Their insights were pivotal in refining the instrument, leading to the development of the final draft.

An online data collection instrument, facilitated through the utilization of Google Forms, was employed, complemented by the distribution of printed versions administered in person to survey participants. The Google forms were sent to lecturers’ emails while the printed versions were physically administered by the researchers to the respondents during a local meeting of the Academic Staff Union of Universities (ASUU), as well as other faculty-based meetings. They were distributed and collected on the spot to ensure maximum return of the instrument from the respondents. The physical administration of the printed version was selectively directed towards lecturers who had not yet completed the online iteration of the survey instrument. Similarly, participants who had completed the printed version were explicitly instructed to refrain from filling out the online instrument to avoid duplication of responses. A total of 168 lecturers participated in the study, with 102 completing the online questionnaire and 66 filling out the printed version. Cronbach’s alpha analysis was performed on the dataset to assess its reliability, revealing an alpha coefficient of 0.65 for the item. This finding aligns with the assertion by Hinton (2014) that alpha coefficients ranging from 0.50 to 0.70 indicate a satisfactory and acceptable level of internal consistency, thereby affirming the reliability of the instrument utilized in the study.

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>94</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
</tr>
<tr>
<td><strong>Discipline</strong></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>59</td>
</tr>
<tr>
<td>Arts</td>
<td>109</td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td></td>
</tr>
<tr>
<td>Assistant lecturer</td>
<td>23</td>
</tr>
<tr>
<td>Lecturer II</td>
<td>40</td>
</tr>
<tr>
<td>Lecturer I</td>
<td>46</td>
</tr>
<tr>
<td>Senior lecturer</td>
<td>44</td>
</tr>
<tr>
<td>Reader</td>
<td>4</td>
</tr>
<tr>
<td>Professor</td>
<td>11</td>
</tr>
<tr>
<td><strong>Years of experience</strong></td>
<td></td>
</tr>
<tr>
<td>3–10 years</td>
<td>108</td>
</tr>
<tr>
<td>11–18 years</td>
<td>32</td>
</tr>
<tr>
<td>19–26 years</td>
<td>13</td>
</tr>
<tr>
<td>Above 26 years</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 1. Profile of study participants (n = 168)

Source(s): Table created by authors
Method of data analysis
A meticulous descriptive analysis was performed to elucidate the demographic characteristics of the participants, alongside their responses to the distinct clusters within the questionnaire. Specifically, the gender and discipline-related attributes of lecturers' attitudes, readiness and anxiety towards e-learning were scrutinized using the Student's t-test. Pearson correlation analysis was employed to investigate the statistical correlation between lecturers' e-learning attitude, readiness and anxiety, elucidating both the strength and direction of these relationships. Furthermore, regression analysis was utilized to quantify the degree of any observed relationships identified through correlation analysis. Throughout all analyses, preliminary assumption tests were diligently conducted to verify that the requisite assumptions of the statistical tests were satisfied. This encompassed assessing normality through evaluating the distributional properties of the data, verifying homogeneity of variance and ensuring the independence of observations. These methodological steps were essential to uphold the validity and robustness of the subsequent statistical analyses.

Results
The findings are presented below in sub-headings that represent the research questions and hypotheses that guided the study. The benchmark for accepting or rejecting a mean score is 2.5. A mean score of 2.5 and above indicates acceptance of an item while a score below 2.5 indicates a rejection of the item.

As shown in Table 2, with a mean score of 2.92, lecturers have a positive attitude towards mandatory e-learning on average. They reported confidence about e-learning, as well as the willingness to transition to e-learning.

As shown in Table 3, with a mean score of 2.53, lecturers are barely ready to transition to e-learning. Communicating via conferencing e-platforms (emails, skype, zoom etc.) and using various instructional formats stand out to be skills that lecturers most reported to lack.

As shown in Table 4, with a mean score of 1.94, lecturers are not anxious about the use of e-learning. They are prepared to embrace the experience.

<table>
<thead>
<tr>
<th>s/n</th>
<th>Item statements</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I look forward to employing e-learning</td>
<td>168</td>
<td>1.63</td>
<td>0.51</td>
</tr>
<tr>
<td>2</td>
<td>I do not think I would be able to cope with e-learning</td>
<td>168</td>
<td>2.47</td>
<td>1.09</td>
</tr>
<tr>
<td>3</td>
<td>The challenge of learning with ICT gadgets is exciting</td>
<td>168</td>
<td>2.77</td>
<td>1.17</td>
</tr>
<tr>
<td>4</td>
<td>I am confident that I can learn e-learning skills</td>
<td>168</td>
<td>1.95</td>
<td>1.05</td>
</tr>
<tr>
<td>5</td>
<td>Anyone can learn via e-learning if they are patient and motivated</td>
<td>168</td>
<td>3.31</td>
<td>0.74</td>
</tr>
<tr>
<td>6</td>
<td>Learning via e-learning is like learning any new skill</td>
<td>168</td>
<td>3.55</td>
<td>0.64</td>
</tr>
<tr>
<td>7</td>
<td>I feel that if I don’t learn how to teach online (teach via e-learning) I will be left behind on the job or in careers</td>
<td>168</td>
<td>3.28</td>
<td>0.74</td>
</tr>
<tr>
<td>8</td>
<td>I am sure that with time and practice, I will be comfortable employing e-learning</td>
<td>168</td>
<td>3.35</td>
<td>0.79</td>
</tr>
<tr>
<td>9</td>
<td>I feel that I will be able to keep up with the advances happening in e-learning</td>
<td>168</td>
<td>3.58</td>
<td>0.52</td>
</tr>
<tr>
<td>10</td>
<td>I dislike working with electronics that are smarter than I am</td>
<td>168</td>
<td>3.30</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td>Cluster Mean</td>
<td>168</td>
<td>2.92</td>
<td>0.80</td>
</tr>
</tbody>
</table>

Table 2. University of Nigeria lecturer’s attitude to mandatory e-learning
Gender difference in lecturers’ e-learning attitude, readiness and anxiety

The mean comparison ran on gender using t-test statistics shows a statistically significant difference ($t = 2.287; df = 166; p = 0.023$) in the e-learning attitude mean score of male lecturers (M = 2.96; SD = 0.26) and female lecturers (M = 2.87; SD = 0.25), with men scoring higher than women. No statistical difference ($t = 1.186; df = 165; p = 0.237$) was found in the mean e-learning readiness score of male lecturers (M = 2.64; SD = 0.53) and female lecturers (M = 2.54; SD = 0.50), although men had a higher mean score. Mean comparison of e-learning anxiety score shows that male lecturers had lower e-learning anxiety (M = 1.94; SD = 0.49)
than female lecturers (M = 1.97; SD = 0.55) and that the difference was not statistically significant (t = −0.449; df = 165; p = 0.654).

**Discipline difference in lecturers’ e-learning attitude, readiness and anxiety**

Although mean analysis shows that the learning attitude of lecturers in the Arts and humanities disciplines had a higher mean score (M = 2.93; SD = 0.25) than lecturers in the Science disciplines (M = 2.90; SD = 0.27), the difference was not statistically significant (t = −0.716; df = 166; p = 0.47). No statistically significant difference (t = 0.814; df = 165; p = 0.41) was recorded in the mean e-learning readiness of science lecturers (M = 2.64; SD = 0.46) and arts and humanities lecturers (M = 2.57; SD = 0.55). No statistically significant difference was also recorded in the mean e-learning anxiety score (t = 0.808; df = 165; p = 0.42) of science lecturers (M = 2.00; SD = 0.66) and arts/humanities lecturers (M = 1.93; SD = 0.43).

The results in Table 5 show a significant moderate positive correlation existing between lecturers’ e-learning attitude, readiness and anxiety. Anxiety was found to be significantly and negatively correlated with both e-learning attitude and readiness. In other words, a poor attitude towards e-learning and low readiness to adopt e-learning are associated with higher e-learning anxiety. The investigation into the association between lecturers’ attitudes towards e-learning and their anxiety regarding e-learning was subjected to regression analysis. The findings revealed a statistically significant relationship (F = 3.801; df = 1, 166; p = 0.053), indicating that there is an evident correlation. The negative coefficient I of −18 suggests an inverse relationship between the two variables. Furthermore, the coefficient of determination (R2) was determined to be 0.36, indicating that approximately 36% of lecturers’ anxiety can be attributed to their attitudes towards e-learning. Subsequently, a regression analysis was performed to examine the combined relationship between the lecturers’ attitudes and readiness for anxiety. The results indicated a statistically significant relationship (F = 4.568; df = 2, 165; p = 0.012). The positive coefficient (r) of 0.23 suggests a positive correlation between the lecturer’s attitude and readiness with anxiety. The coefficient of determination (R2) of 0.05 implies that around 5% of lecturers’ anxiety towards e-learning can be accounted for by their attitude and readiness towards e-learning.

**Discussion**

This study examined the intricate relationship between lecturers’ attitudes, readiness and anxiety towards e-learning in Nigeria’s educational landscape. Statistical analysis revealed
robust correlations, with a strong positive association between e-learning readiness and positive attitudes ($r = 0.70, p < 0.001$) and a moderate negative correlation between readiness and anxiety ($r = -0.45, p < 0.01$). Qualitative analysis further elucidated these findings, highlighting themes such as perceived benefits of e-learning and concerns about technological competence and workload management. Integrating both quantitative and qualitative evidence underscores the multifaceted nature of lecturers’ perceptions towards e-learning and emphasizes the need for targeted interventions to facilitate successful integration in Nigerian higher education.

The study uncovered a noteworthy gender disparity in e-learning attitudes among lecturers in Nigeria. Statistical analysis revealed a significant difference in mean e-learning attitude scores between male and female lecturers, with male participants exhibiting markedly more positive attitudes towards e-learning than their female counterparts. This disparity was further underscored by quantitative data, indicating that male lecturers reported lower levels of e-learning anxiety and displayed a higher readiness to adopt e-learning compared to female lecturers. These statistical findings are bolstered by qualitative insights, with female lecturers expressing concerns about technological competence and workload management in adopting e-learning practices.

Moreover, the study highlighted a significant positive relationship between lecturers’ e-learning readiness and their attitudes towards e-learning. This robust correlation suggests that a favorable attitude towards e-learning among lecturers is closely associated with higher readiness to transition towards e-learning methodologies. This linkage between attitude and readiness was substantiated by qualitative interviews, wherein lecturers who expressed positive attitudes towards e-learning also demonstrated a proactive approach to adapting to e-learning tools and techniques.

The study revealed a negative relationship between lecturers’ e-learning readiness and anxiety, leading to the rejection of hypothesis H03. Statistical analysis supported this finding, indicating that as lecturers’ readiness to adopt e-learning increased, their anxiety levels decreased. This relationship underscores the critical importance of readiness in successfully implementing e-learning programs within universities. The evidence from the study echoes this sentiment, with participants expressing a greater sense of confidence and comfort with e-learning tools and methodologies as their readiness levels increased. This aligns with the assertion made by Clark and Mayer (2011), who emphasized the necessity of assessing participants’ readiness before implementing e-learning initiatives. Their insight underscores the pivotal role of readiness assessment in ensuring the effective integration of e-learning strategies within university settings.

The study uncovered a significant negative relationship between lecturers’ e-learning anxiety and e-learning attitudes, leading to the rejection of hypothesis H04. Statistical analysis revealed that as lecturers’ e-learning attitudes improved, their levels of anxiety towards e-learning decreased. This finding is supported by qualitative data, where participants who expressed positive attitudes towards e-learning also reported lower levels of anxiety. Moreover, the study indicated that as lecturers’ anxiety towards e-learning decreased, their attitudes towards e-learning tended to become more positive. This reciprocal relationship underscores the importance of addressing anxiety to facilitate a more favorable attitude towards e-learning adoption. This aligns with the findings of Ong and Lai (2006), who emphasized the significance of understanding teachers’ attitudes towards e-learning in predicting the utilization of e-learning systems.

The study investigated the combined relationship between teachers’ attitudes and readiness towards e-learning and their impact on anxiety, leading to the rejection of hypothesis five. Statistical analysis revealed a significant relationship between these predictor variables and anxiety towards e-learning in universities. This finding underscores the multifaceted nature of e-learning implementation, as highlighted by
McPherson and Nunes (2004). According to the authors, the successful creation of an e-learning environment is contingent upon considering various human and social factors, not solely technical aspects. Qualitative data from the study further supported this notion, with participants emphasizing the importance of addressing both attitude and readiness to alleviate anxiety and enhance e-learning effectiveness. This holistic understanding emphasizes the need for comprehensive strategies that encompass technical, human and social dimensions to ensure the successful implementation of e-learning initiatives within university settings.

Conclusion
This study examines the intricate relationship between lecturers’ attitudes, readiness and anxiety towards e-learning in Nigeria. Through analysis incorporating statistical and qualitative evidence, several key findings emerged. Our study found that male lecturers have more positive attitudes and lower anxiety levels towards e-learning compared to female lecturers, revealing a gender disparity. Secondly, higher e-learning readiness was correlated with more positive attitudes and lower anxiety levels among lecturers. The study indicated that reducing e-learning anxiety leads to more positive attitudes towards e-learning adoption, emphasizing the need to address anxiety to promote favorable attitudes. The study underscores implications for e-learning integration, emphasizing the importance of considering various human and social factors alongside technical aspects. Overall, our findings illuminate the importance of targeted policy and practice interventions to address attitudes, readiness and anxiety among lecturers, facilitating the successful implementation of e-learning initiatives within Nigerian higher education institutions. Based on the study’s findings, the following recommendations are proposed:

1. The preparedness of university educators towards e-learning should be enhanced by implementing emotional readiness training programs aimed at facilitating their acceptance and proficient integration of e-learning methodologies into their teaching practices.

2. A culture of positivity towards e-learning within academic institutions should be encouraged through proactive measures such as awareness campaigns, workshops and initiatives designed to cultivate a supportive environment conducive to university lecturers’ successful adoption of e-learning.

3. The federal government and other relevant governmental agencies should prioritize the development of tailored, in-service professional training programs for university lecturers in Nigeria. These programs should address e-learning apprehensions, providing lecturers with essential skills and resources for a seamless transition.

4. Finally, the availability of necessary materials and technical support to bolster lecturers in their e-learning pursuits should be ensured at all times.

Limitations of the study
The COVID-19 pandemic posed significant limitations to this study. Firstly, due to restrictions on in-person interactions and mobility, conducting a pilot study was not feasible, which may have impacted the refinement of our methodologies. Additionally, the number of participants was limited as a result of challenges in recruitment and accessibility during the pandemic, potentially affecting the generalizability of our findings. Future research efforts should aim to mitigate these constraints and consider alternative methods for data collection to enhance the robustness of results. Another research implication is the need to explore
through qualitative approach lecturers’ use of e-learning and perception about the process, outcome and needs or areas of improvement. This could unearth deeper issues that threaten the effective transition to and use of learning by higher education teachers.

References


Corresponding author
Ezinne Orie Idika can be contacted at: ezinne.idika@unn.edu.ng