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DIGITAL HUMANITIES | RESEARCH ARTICLE

COVID-19 pandemic: Nigerian University lecturers' response to virtual orientation

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Abstract: The effect of the COVID-19 pandemic globally and the disruptions occasioned by it has far-reaching implications on societies in general and most especially the educational sector with governments across the globe ordering lockdowns including the closure of education institutions thereby necessitating alternative teaching and learning methods other than the usual face-to-face interaction to avoid a total collapse of the education sector. This study investigates Nigerian University lecturers' perspective and response to virtual learning as an alternative to face-to-face teaching method during the pandemic. Relying on primary data source collected using questionnaires, a total number of 435 lecturers responded across both public and private universities and their responses analysed using SPSS. The study found that lecturers from private universities responded to virtual teaching than those from public universities; that the presence of infrastructural orientation influences virtual orientation; and that a negative relationship exists between the

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PUBLIC INTEREST STATEMENT

This study investigates Nigerian University lecturers' perspective and response to virtual learning as an alternative to face-to-face teaching method during the pandemic. Relying on primary data source collected using questionnaires, a total number of 435 lecturers responded across both public and private universities and their responses analysed using SPSS. The study found that lecturers from private universities responded to virtual teaching than those from public universities; that the presence of infrastructural orientation influences virtual orientation; and that a negative relationship exist between the sociodemographic/occupational variables (gender, current position, years of experience) and virtual orientation of lecturers of Nigerian universities. The findings from this research brings to the fore the need for adequate funding and provision of educational infrastructure for the government-owned univerities.

sociodemographic/occupational variables (gender, current position, years of experience) and virtual orientation of lecturers of Nigerian universities.

Subjects: Teaching & Learning - Education; Higher Education; Open & Distance Education and eLearning; Education Policy

Keywords: COVID-19; Pandemic; Nigeria; Universities; Virtual Orientation

1. Introduction

The world is currently experiencing the pandemic of a novel infectious disease called coronavirus disease, otherwise known as COVID-19. The pandemic, according to the United Nations (2020) touches every aspect of society, constituting inevitable social disruptions. Therefore, being able to work might be difficult or impossible. Consequently, the global spread of the COVID-19 virus informed the action of the World Health Organization (WHO) to mandate learning institutions to close. For instance, UNESCO (2020) reported that governments of about 146 countries spreading across the globe have ordered the closure of educational institutions, thereby throwing about 1.37 billion learners as well as about 60.2 million teachers out of the schools and classrooms. This resulted in educational stakeholders and education service providers seeking alternative teaching mean to avoid the complete collapse of the education sector. While some governments have temporarily instructed the use of public television stations for teaching primary and secondary schools, some tertiary institutions moved to virtual teaching platforms to reach out to their students (UNESCO, 2020). Buttressing this, the disease is highly infectious and transmitted through human contact makes it invariably incompatible with the physical contact setting of learning and teaching. This incompatibility has brought about a paradigm shift in the traditional practices, processes and concepts of brick and mortar to online virtual learning setting in many nations of the world.

Virtual form of learning has advanced as a major means of education in the developed world even before the pandemic (Kyari et al., 2018). This form of learning is adjudged to be better than the usual face-to-face interaction because it has the advantage of reaching many learners at the same time and does not require them to come together in a place or under a common roof (Ajadi et al., 2008). According to them, the virtual learning process entails the use of three broad categories of technological tools: Real-time social media channels-WhatsApp, Telegram, YouTube, Facebook; Asynchronous learning processes which involve the use of a Discussion board and Digital library; and Video conferencing tools such as Microsoft Teams, Zoom, Google Hangout, WebEx, Skype, Google Meet, etc., the astronomical increase in the deployment of technology in the learning and teaching processes has led to an increase in investments in education technology companies. For instance, in 2019, investments in education technology companies increased by 18.66 USD billion. To underscore the shift to and importance of technology deployment in learning and teaching processes, the sum of investments to the education technology companies in 2018 and 2019 far outstrip such investment for the period between 1998 and 2017 (MarketInsider, 2019).

The United States (US) Department of Health and Human Services (US Department of Health and Human Services, 2006) stated that pandemics are global in nature, but their impacts are local depending on the preparedness of nations and communities affected. The United Nations (2020) relayed that even though physical distancing, including quarantines, isolation and even lockdown as well as contact tracing seems to be most effective in limiting the further spread of community transmission of COVID-19, unfortunately, many countries do not have the resources to prepare themselves for the crisis. Therefore, the response rate to virtual teaching and learning process as an alternative in this pandemic time would depend on the level of the nation's preparedness for such emergencies.

For instance, the United Nations asserted in 2019 that more than half of the schools in sub-Saharan Africa (SSA) including Nigeria have no access to the internet and computers facilities.

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Furthermore, Nigeria was ranked 62nd position among nations in terms of institutional e-learning readiness (Kyari et al., 2018). This points to the inadequacy of infrastructures and shortage of ICT facilities as compared to the teeming number of students in the universities (Olibie et al., 2014). Similarly, Obiakor and Adeniran (2020) observed that the new virtual learning is disproportionately easier for staff and students of private institutions as compared to those in public schools. Buttering these, Anene et al. (2014); Olugbeko and Izu (2013) opined that lecturers who are saddled with the responsibility of teaching the students are not themselves ICT compliant because most of them have no exposure to such training.

This study, in response to the prevailing pandemic period, is set to investigate lecturers' perspective, attitude and response to virtual learning as an alternative to their job in the face of the COVID-19 pandemic. Their compliant level, access to facilities, students' response, training on ICT is also evaluated in this study. This is very germane to policy implication to forestall future occurrences in such emergencies as this which is inevitable. The main goal of this is to highlight the result of the nationwide survey on the response of universities' lecturers in Nigeria to the sudden shift from face-to-face teaching to the virtual method as a result of the outbreak of the coronavirus pandemic. In achieving this, two other specific objectives were evaluated. The first objective seeks to establish the relationship between the sociodemographic/occupational variables and Nigerian universities lecturers' response to virtual orientation. The second objective seeks to examine the impact of infrastructural facilities on virtual orientation among lecturers of Nigerian universities. This study contributes to knowledge by illuminating the impacts of sociodemographic/occupational variables as well as infrastructural facilities on the degree of adaptability of university lecturers' shift from face-to-face teaching to virtual teaching.

2. Literature review

Ananga and Biney (2017) conducted a comparative study on the effectiveness of face-to-face and online teaching and learning in higher education. Using Distance Learning as a case study, the study aimed to ascertain which of the two methods is more preferred by the faculty and lecturers. The study suggests a blend of the two models in the learning and teaching processes.

Lecturers that have been trained for face-to-face teaching should be trained for online teaching. In their various studies, scholars have emphasized the importance of further training to increase the competencies of the lecturers in teaching courses online (Crawford-Ferre & Wiest, 2012) reported that most online teachers and faculty have not been adequately trained for the task. Similarly, Aborode et al. (2020) revealed the provision of institutional support such as laptops and data bundle to both staff and students.

The shift from the face-to-face teaching method to the virtual method by lecturers demands that lecturers acquire the requisite skills and knowledge for online teaching. Apart from the skills and knowledge, it is also important that necessary ICT facilities are provided. These will ensure the success of the virtual teaching method (Khan, 2020) Using twenty-five countries as a case study, Gray et al. (2004) investigated how the online teachers were trained and how the teachers became skilful in this type of teaching. Their result reveals that the same virtual setting where online learners were being trained was also the same setting where the teachers were trained. In other words, there is no special setting for the training of online teachers.

In a comparative study on the efficacy of face-to-face learning and computer-supported collaborative learning, Solimeno et al. (2008) examined how students learning strategies and personality characteristics and teachers' characteristics determine learning outcomes. The result of the study reveals that computer-supported collaborative learning while providing learning opportunities for students that have certain problems such as time management, low anxiety and problem-solving that has high efficacy, asynchronous collaborative learning is beneficial to the teachers as it enhances the professional competencies.

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Bernard et al. (2004) found that in terms of format, the performance of online learners was far worse than that of the traditional learners, but comparatively, in terms of attitude, retention outcomes and achievement, there exists no significant difference.

3. Methodology

3.1. Technique
The study relies on primary data source collected using a questionnaire. The questionnaires were administered through the WhatsApp social media platform of various universities' groups, departments, faculties, colleges and units. A total number of 435 lecturers responded across both public and private universities in Nigeria. The copies of the questionnaire were then downloaded and analysed using descriptive statistics in tables and figures. The responses were thereafter analysed using SPSS.

3.2. Participants
A total of 435 lecturers from Nigeria's public and private-owned universities (Public = 288; Private = 147) participated in this study. The study involves lecturers in different cadres (below Senior Lecturer = 330, Senior Lecturer = 60, Professional = 45). The age average (20–30 = 21; 21–40 = 180; 40–50 = 174; 60 and above = 60). The lecturers belong to different academic disciplines (Sciences = 147; Social Sciences and Humanities = 162; Agricultural Sciences = 42; Engineering = 36; Management = 39; Education = 9). For gender representation, Male = 336; female = 99.

3.3. Analysis and discussion
The major objective of the study is to assess the response of lecturers in Nigerian universities to the sudden shift to virtual teaching occasioned by the COVID-19 pandemic. To achieve this, participants were asked if they engaged their students in virtual teaching. Out of the 435 participants, only 192, constituting about 44% of the participants engaged in virtual teaching.

From Table 1,2, the result shows that out of these 192 lecturers who engaged in virtual teaching during the Covid-19 crisis, only 54 (28%) lecturers from public (government-owned) universities engaged their students, while 138 (72%) from private universities engaged their students in virtual teaching. This shows that out of 288 lecturers from the public universities and 147 from the private universities that participated in the study, only 54 and 138 lecturers, constituting (19%) and (81%) respectively from the public and private universities engaged in virtual teaching.

To unravel factors/reasons responsible for the non-engagement by lecturers from public (government-owned) universities, the participants were further asked to state the reason why they didn't participate. Analysis of their responses shows that of the 243 who didn't engage in virtual teaching, 144 (59%) cited the industrial dispute between lecturers of public universities and the federal government of Nigeria as being responsible for their non-engagement in virtual teaching. Lack of technical skills constitutes 9 (4%); lack of teaching facilities (internet, power, etc.) accounts for 75 (31%); non-subscription to the online teaching method accounts for 15 (6%). This finding reveals industrial dispute between lecturers of public universities and the federal government of Nigeria as a significant factor hindering participation in virtual learning in public universities with huge implications on the learning outcomes of students. This finding aligns with studies like Yusuf et al. (2015) that industrial disputes have debilitating effects on education management and learning outcomes.

On the level of human and infrastructural preparedness of Nigerian universities before the COVID-19 induced shift to virtual teaching, the participants were asked if they were duly trained on virtual teaching method. From a total of 435 participants, 99 (23%) of them said they were duly trained while 336 (77%) said they were not trained. This result corroborated the findings of Gray et al. (2004), Crawford-Ferre and Wiest (2012), Oladokun and Opesade (2008) and Draves (2000) who reported that most online teachers were not trained.

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Table 1. Sociodemographic and occupational characteristics of the survey participants		
Gender	**Frequency percentage**	
Male	336	77.2%
Female	99	22.7%
Total	**435**	**100%**
Age range	**Frequency**	**Percentage**
20–30	21	4.8%
31–40	180	41.4%
40–50	174	40%
50 and above	60	13.8%
Total	**435**	**100%**
Type of university	**No of lecturers**	**Percentage**
Public university	288	66.2%
Private university	147	33.8%
Total	**435**	**100%**
Cadre/position	**Frequency**	**Percentage**
Below Senior Lecturer	330	75.9%
Senior Lecturer	60	13.8%
Professorial Cadre	45	10.3%
Total	**435**	**100%**
Disciplines	**Frequency**	**Percentage**
Science	147	33.8%
Social sciences & Humanities	162	37.2%
Agricultural sciences	42	9.7%
Engineering	36	8.3%
Management	39	9%
Education	9	2.1%
Total	**435**	**100%**

To assess the level of infrastructural development and its capacity to support the sudden shift, the participants were asked if the infrastructural facilities available can support the shift to the virtual teaching method. Responses from the participants show that 405 (93%) of the participants were of the view that Nigeria has no adequate infrastructural support for virtual teaching, while 30 (7%) participants believed that the level of infrastructural development adequately supports virtual teaching. This finding validates Anene et al. (2014) who assert that a low level of infrastructural development may prevent a shift from the traditional way of teaching to virtual teaching.

The abysmal level of human development could be seen in the number of participants that were trained when they were trained, and the media used during the virtual training. Over a long period, government-owned universities have been starved of required funds needed for both human and infrastructural development. Several years of neglect is responsible for the lack of preparedness of the government-owned universities to quickly switch to virtual teaching (IseOlorunkanmi et al. (2021). Regarding when they were trained on the use of teaching tools, 58% of the participants were trained before the pandemic outbreak, while 42% were trained during the pandemic to address the crisis caused by the shutdown. The training of some of the participants differs from the findings of Gray et al. (2004), who reported that there was no special class for teaching online teachers. This shows that significant changes have occurred within the teaching career between the period of that study and now.

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Table 2. Nigerian lecturers' engagement of virtual teaching and perception during Covid-19 crisis		
Did you engage in virtual teaching during COVID-19 crisis?	**Frequency**	**Percentage**
Yes	192	44.1%
No	243	55.9%
Total	**435**	**100%**
Were you trained for virtual teaching?	**Frequency**	**Percentage**
Yes	99	22.8%
No	336	77.2%
Total	**435**	**100%**
When was the training done?	**Frequency**	**Percentage**
Before the COVID-19 Pandemic outbreak	57	57.6
During the COVID-19 Induced shutdown	42	42.4
Total	**99**	**100%**
Do you think Nigeria's Infrastructure facilities fully support virtual orientation?	**Frequency**	**Percentage**
Yes	30	6.9%
No	405	93.1%
Total	**435**	**100%**
Which is more convenient?	**Frequency**	**Percentage**
Classroom setting	348	80%
Online	87	20%
Total	**435**	**100%**
Which is more effective?	**Frequency**	**Percentage**
Classroom setting	414	95.2%
Online	21	4.8%
Total	**435**	**100%**

The level of the human capacity of Nigerian lecturers could also be understood from the technological know-how and usage of teaching/learning tools. From the frequency of tools, social media platform, Telegram has the highest at 132 (68%), WhatsApp 42 (21%), University e-learning platform 77 (40%), Google Classroom 27 (14%), Google teams 3 (1%), Zoom 45 (23%). Participants were asked to compare the effectiveness and convenience of both the face-to-face and the virtual teaching methods. The findings show that 348 (80%) of the respondents believe that classroom setting is more convenient compared to 87 (20%) that believe that online teaching is more convenient. In terms of effectiveness, 414 (95%) is of the view that classroom setting is more effective compared to 21 (5%) who is of the view that online teaching is more effective.

Table 3 shows that of the three categories of virtual teaching methods: the real-time social media channels, asynchronous learning processes and video conferencing tools, the video conferencing tools has the largest percentage.

To achieve the objectives of the study, statistical tests (regression, correlation) were conducted to test the relationship between sociodemographic/occupational variables and virtual orientation

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Table 3. Showing the frequency of participants' use of social media platforms for virtual teaching

Media platforms	Frequency	Per cent
Telegram	66	15.2%
Telegram, University E-learning platform	36	8.3%
Telegram, University E-learning platform, Exam.net	3	0.7%
Telegram, University E-learning platform, Google Class	6	1.4%
University E-learning platform	12	2.8%
University E-learning platform, Google Class	3	0.7%
WhatsApp	12	2.8%
WhatsApp, Google Class	9	2.1%
Zoom	6	1.4%
Zoom, Google Class	3	0.7%
Zoom, Telegram	3	0.7%
Zoom, Telegram, University E-learning platform	6	1.4%
Zoom, Telegram, WhatsApp	9	2.1%
Zoom, Telegram, WhatsApp, University E-learning platform	3	0.7%
Zoom, Telegram, WhatsApp, University E-learning platform, Google Class	3	0.7%
Zoom, University E-learning platform	3	0.7%
Zoom, University E-learning platform, Google Class	3	0.7%
Zoom, WhatsApp	3	0.7%
Zoom, WhatsApp, University E-learning platform, Teams	3	0.7%
Total	**435**	**100**%

for the first objective and the impact of infrastructural facilities on virtual orientation for the second objective.

4. Research question 1

What is the relationship between sociodemographic/occupational variables and virtual orientation by Nigerian universities' lecturers?

Objective 1: to examine the impact of infrastructural facilities on virtual orientation among lecturers of Nigerian universities

5. Hypothesis 1

There is no significant relationship between sociodemographic/occupational variables and virtual orientation by universities' lecturers in Nigeria.

The result from Table 4 shows the relationship between sociodemographic/occupational variables and virtual orientation by public and private universities' lecturers in Nigeria was presented in the correlation matrix. The sociodemographic/occupational variables used in this study are gender,

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Table 4. Correlations analysis

Employer			Gender	Age	Marital status	Current academic level	Current position	Field of specialization	Years of experience	VO
Public university	Gender	Pearson Correlation	1							
	Age	Pearson Correlation	-.088	1						
	Marital status	Pearson Correlation	.074	.340ᵃ	1					
	Current Academic Level	Pearson Correlation	-.095	.346ᵃ	.046	1				
	Current Position	Pearson Correlation	.001	.500ᵃ	-.032	.412ᵃ	1			
	Field of Specialization	Pearson Correlation	-.054	.052	.000	-.163ᵃ	-.238ᵃ	1		
	Years of experience	Pearson Correlation	-.093	.638ᵃ	.053	.381ᵃ	.612ᵃ	-.047	1	
	VO	Pearson Correlation	-.114	-.176ᵃ	-.047	-.021	-.288ᵃ	.038	-.163ᵃ	1
Private university	Gender	Pearson Correlation	1							
	Age	Pearson Correlation	-.107	1						
	Marital status	Pearson Correlation	-.172ᵇ	.467ᵃ	1					
	Current Academic Level	Pearson Correlation	.057	.138	.083	1				
	Current Position	Pearson Correlation	.080	.210ᵇ	.196ᵇ	.122	1			
	Field of Specialization	Pearson Correlation	-.231ᵃ	-.164ᵇ	-.187ᵇ	.105	-.030	1		
	Years of experience	Pearson Correlation	.043	.538ᵃ	.140	.156	.488ᵃ	-.116	1	
	VO	Pearson Correlation	-.098	.130	.111	.011	.123	.128	.057	1

a.Correlation is significant at the 0.01 level (2-tailed).
b.Correlation is significant at the 0.05 level (2-tailed).

age, marital status, current academic level, current position, the field of specialization and years of experience. The output for each of these sociodemographic/occupational variables is discussed.

For the public universities' lecturers, there is a negative relationship between gender, current position, the field of specialization, years of experience and virtual orientation with a coefficient of −0.088, −0.238, −0.047 and −0.163, respectively. However, a positive correlation exists between age, marital status, current academic level and virtual orientation with a coefficient of 0.340, 0.046 and 0.412, respectively.

For the private universities' lecturers sociodemographic/occupational variables, there is a negative relationship between gender, current position, years of experience and virtual orientation with a coefficient of −0.107, −0.030 and −0.116, respectively. Furthermore, a positive correlation exists between age, marital status, current academic level, the field of specialization and virtual orientation with a coefficient of 0.467, 0.083, 0.122 and 0.057, respectively.

6. Research question 2
To what extent do infrastructural facilities affect Nigerian universities lecturer's virtual orientation?

Objective 2: To determine the effect of infrastructural facilities on Nigerian universities lecturer's virtual orientation

7. Research hypothesis 2
H_{a2}—That infrastructural facilities significantly affects the virtual orientation

Hypothesis two was statistically tested using multiple regression to (i) identify whether or not there is a relationship, and (ii) examine the degree of the relationship, between the independent variable (that is, the Infrastructural facilities, IF) and dependent variable (Virtual orientation, VO); (iii) to access the predictor importance of the variables and finally (iv) to analyze the significant effect of the variables under study.

The correlation matrix is used to determine the existence of relationship among variables. The correlation (r) value ranges between 0 and 1. When the r-value is greater than 0.5, then there is a strong correlation (relationship) but when the r value is less than 0.5 then there's a weak correlation (relationship). However, when the value falls within the region of 0.5 then there is a moderate correlation (relationship). The sign ± associated with the r-value determine whether there is a positive or negative correlation. The correlation value between VO and IF is −0.121. This implies that there is a weak correlation among variables. It was further observed a negative relationship exist between virtual orientation and infrastructural facilities.

The model summary table shows how much of the variance of the dependent variable (Virtual Orientation) is explained by the independent variable (Infrastructural Facilities). In this case, the R square shows a coefficient determination R square (R^2) of about 0.121 if expressed by a percentage will be 12.1%. This infers that 12.19% variation of virtual orientation is predicted by the measures of infrastructural facilities.

The adjusted R square of 0.012 (1.2%) shows the variability of the independent variable (infrastructural facility) while the standard error of the estimate indicates .27228 which signifies error term. This indicates that 1.2% of the variations in Virtual Orientation are explained by the infrastructural facility.

The findings are supported by the Analysis of Variance ANOVA (F test) results that the model or none of the parameters was equal to Zero.

Decision Rule: Reject the Null hypothesis, when the significance value is below 0.05.

Do not reject the hypothesis, when the significance value is greater than 0.05.

Coefficient Table for the Independent Variable (Infrastructural Facilities)

The coefficient table above depicts the statistically significant contribution reflected in the simple model expressing the extent to which variables included in the model contributed to the prediction of the dependent variable via the viewing of the sig column in the table and checking for the multicollinearity in the model. The tolerance was > 0.1 as well as VIF < 10 meaning none of the variables in the model is measuring the same relationship/quantity as is measured by another variable or group of variables. The level of significance was based on a level of 0.05 for a two-sided test, with the absolute value of the test statistics (T) greater than or equal to the critical value of 1.96. The model revealed that infrastructural facility had statistical significance in predicting virtual orientation with high beta values (*beta* = −121) with Tval (−2.535) higher than 1.96, sig. .000 $p < .05$). This means that the need for the negative claims of virtual orientation exists because of the level of the infrastructural facilities present in the universities.

This implies that for each unit decrease in infrastructural orientation, there are up to −.121 decrease respectively in virtual orientation.

Decision: The significance level below 0.01 implies statistical confidence of above 99%. This implies that the presence of infrastructural orientation influences virtual orientation. Thus, the null hypothesis (H_{03}) was rejected, while the alternate hypothesis (H_{a3}) which says infrastructural facilities significantly affects virtual orientation was accepted with its negative hold on the other parameter.

8. Conclusion and policy implication

The discussion derived from the result above shows that lecturers from private-owned universities in Nigeria responded to the demand for a sudden shift to virtual teaching than those from the public-owned universities. This is due majorly to the unresolved industrial dispute that started before the outbreak of the COVID-19 pandemic. The implication of this is that the pandemic will have greater consequences like poor performance on the students from public-owned universities than those from private ownership. More importantly, the severity of the consequences may heighten since the disputes between the public universities and government leading to industrial strike may prolong and sometimes repeat themselves in the future. The views of respondents as analysed in this research suggest that in Nigeria a lot still needs to be done if the country wants to be among the best prepared in the case of future unforeseen circumstances which is inevitable. The Nigerian public universities are in dire need of urgent attention for both human and infrastructural development such that can compete favourably well with universal quality standard.

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References
Aborode, A., Anifowoshe, O., Ayodele, T. I., Iretiayo, A. R., & David, O. O. (2020). Impact of COVID-19 on education in sub-Saharan Africa.
Ajadi, T. O., Salawu, I. O., & Adeoye, F. A. (2008). E-learning and distance education in Nigeria. *Online Submission*, 7(4). https://files.eric.ed.gov/fulltext/ED503472.pdf

Ananga, P., & Biney, I. K. (2017). Comparing face-to-face and online teaching and learning in higher education. *MIER Journal of Educational Studies, Trends & Practices*, 7(2), 165–179. https://doi.org/10.52634/mier/2017/v7/i2/1415

Anene, J. N., Imam, H., & Odumuh, T. (2014). Problems and Prospects of E-learning in Nigeria. *International Journal of Technology and Inclusive Education (IJTIE)*, 3(2), 320–327. https://doi.org/10.20533/ijtie.2047.0533.2014.0041

Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., Wallet, P. A., Fiset, M., & Huang, B. (2004). How does distance education compare with classroom instruction? A meta- analysis of the empirical literature. *Review of Educational Research*, 74(3), 379–439. https://doi.org/10.3102/00346543074003379

Crawford-Ferre, H. G., & Wiest, L. R. (2012). Effective online instruction in higher education. *The Quarterly Review of Distance Education*, 13(1), 11–14. https://www.learntechlib.org/p/131979/

Gray, D. E., Ryan, M., & Coulon, A. (2004). The training of teachers and trainers: Innovative practices, skills and competencies in the use of eLearning. *European Journal of Open, Distance and E-Learning, II*.

IseOlorunkanmi, J. O., Rotimi, M. E., Adebola, G. O., Lawal, A. I., Henry, N. L. C., & Adebisi, T. (2021). Challenges in Nigeria's education sector and the migration of Nigerian postgraduate students to South African universities. *Cogent Social Sciences*, 7(1), 1890897. https://doi.org/10.1080/23311886.2021.1890897

Khan, I. A. (2020). Electronic learning management system: Relevance, challenges and preparedness. *J. Emerg. Technol. Innov. Res*, 7(5), 471–480. https://www.jetir.org/papers/JETIR2005072.pdf

Kyari, S. S., Adiuku-Brown, M. E., Abachi, H. P., & Adelakun, R. T. (2018). E-learning in tertiary education in Nigeria: Where do we stand? *International Journal of Education and Evaluation*, 4(9), 1–10. www.llardpub.org

MarketInsider. (2019). *Global edtech investments reach a staggering $18.66 billion.*Insider https://markets.businessinsider.com/news/stocks/2019-global-edtech-investments-reach-a-staggering-18-66-billion-1028800669I

Obiakor, T., & Adeniran, A. (2020). COVID-19: Impending situation threatens to deepen Nigeria's education crisis. *Centre for the Study of the Economies of Africa* (CSEA).

Olibie, E. I., Ezoem, M. N., & Ezene, U. S. (2014). Awareness of virtual learning among students of two Nigerian Universities: Curriculum implications. *International Journal of Development and Economic Sustainability*, 2(1), 48–62. https://www.eajournals.org/journals/international-journal-of-education-learning-and-development-ijeld/vol-2-issue-1-march-2014/

Olugbeko, S. M., & Izu, G. O. (2013). The reality and challenges of E-learning education in Africa: The Nigerian experience. *International Journal of Humanities and Management Sciences (IJHMS)*, 1(3), 1–10. www.isaet.org › images › extraimages

Solimeno, A., Mebane, M. E., Tomai, M., & Francescato, D. (2008). The influence of students and teachers' characteristics on the efficacy of face-to-face and computer-supported collaborative learning. *Computers & Education*, 51(2008), 109–128. https://doi.org/10.1016/j.compedu.2007.04.003

UNESCO Institute for information technologies in education. (2020). *1.37 billion students now home as COVID-19 school closures expand, ministers scale-up multimedia approaches to ensure learning continuity*. https://en.unesco.org/news/137-billion-students-now-home-covid-19-school-closures-expand-ministers-scale-multimedia

United Nations. (2020) Shared responsibility, global solidarity: Responding to the socioeconomic impacts of COVID-19. New York

US Department of Health and Human Services. (2006) Pandemic influenza planning: A guide for individuals and families. USA.www.ea-journals.org

Yusuf, S. A., Salako, M. A., Adedina, L., & Ayelotan, O. I. (2015). Implication of academic staff union strike action on students' academic performance: Ex-post-facto evidence from University of Lagos, Akoka, Nigeria. *Global Journal of Arts, Humanities and Social Sciences*, 3(8), 12–24. https://www.eajournals.org/journals/global-journal-of-arts-humanities-and-social-sciences-gjahss/vol-3issue-9september-2015/

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