Assessment of Students perceived preparedness for e- Learning in Ibadan, Nigeria

ABSTRACT

Background: The occurrence of the COVID-19 pandemic has made software developers to come up with different e-learning tools to facilitate distance learning in institutions. These tools have eased the challenges brought about by limited contact among persons during that period and there could be variations in the level of preparedness to use these tools among different populations. This study thus aimed to assess the level of student's preparedness to use these e-learning tools.

Materials and methods: A descriptive design was used to carry out this study among 203 respondents of the Federal Training Centre for Teachers of Health Sciences, in the University College Hospital, Ibadan. A simple random sampling technique was adopted to select the study participants from the population. A semi-structured questionnaire with 4 sections was used in the collection of data. Ethical considerations were adhered to and analysis was performed using the Statistical Package for Social Sciences (SPSS) software.

Results: The results show that a high level of preparedness (71.4%) was recorded and this was evidenced by greater proportion of availability of e-learning materials (76.8%) with a corresponding network system (82.8%). Majority (73.9%) of the respondents had utilized these e-learning tools for class assignments and virtual meetings in their respective environments. The recorded level of preparedness was reported to be faced with some constraints including poor availability of tele-communication networks (42.4%), lack of functional laptops (17.2%) and lack of e-learning facilities (10.3%) respectively.

Conclusion: e-learning utilization preparedness was found to be good in this study but is faced with certain barriers limiting its use effectively. Governments and necessary stakeholders need to prioritize provision of infrastructure, training and materials needed to enhance e-learning in the educational system of Nigeria

Keywords: e-learning, students' preparedness, e-learning tools, University College Hospital.

Introduction

The COVID-19 pandemic emerged at the end of 2019 in Wuhan, the high-technology business hub of China. The experience of pandemic of an entirely distinctive coronavirus appeared to have killed thousands of Chinese populations within its few days of spread **(**Abdel-Gawad & Woollard, 2020**).** Within a short period of time, the disease had spread worldwide because of its respiratory droplet route of transmission and had altered the operating conditions of businesses,

institutions and so on all over the globe. Many countries took up precautionary measures, including lockdowns of schools and universities (Alvino et al., 2020). The lockdown actions were in response to social distance rules, which were strongly recommended by the World Health Organization (WHO) to prevent the spread of the COVID-19 virus (Aparicio et al., 2020). This lockdown thus affected traditional face-to-face learning and approximately a billion students' education was affected worldwide including in Nigeria (Alvino et al., 2020).

The occurrence of the pandemic further jolted the application of technology in the delivery of education in various populations (Di Vaio et al., 2020). Technology tools applied included the use of technology-based learning through websites, learning portals, Zoom conferencing, YouTube lessons, mobile phone applications, as well as blended learning tools (Adams et al., 2018). e-learning has thus been influential in improving students' and staff's knowledge and interests and use of these various technological inputs to provide education (Adams et al., 2018). Assessment of the critical success factors of the unplanned switch to e-learning in the education sector during the period of the COVID-19 pandemic showed that a number of problems were encountered (Azhari & Ming, 2015). Not all institutions had the ability to switch smoothly as not all of them were previously equipped to implement e-learning, unlike institutions that already offered and were actively diversifying e-learning platforms. Due to the lockdowns, there was also the problem of the inability to use libraries, attend tutoring sessions and so on (Azhari & Ming, 2015). Institutions in Nigeria also had their fair share of limitations associated with the use of e-learning platforms during this period (Ezinine, 2021; Ogolodom et al., 2023; Oyediran et al., 2020) which prompted the conduct of this study to identify the perceived preparedness of students of the Federal Training Centre for Teachers of Health Sciences, University College Hospital Ibadan, to adopt e-learning during the course of their educational pursuit.

Materials and Methods

A descriptive cross-sectional design was used to conduct this study at the Federal Training Centre for Teachers of Health Sciences, University College Hospital Ibadan. The study population encompassed all registered students of the institution for the 2020/2021 academic session. A sample size of 203 students were selected to be involved in the research after stratifying them according to the different departments in the institution. A semi-structured

questionnaire titled ‘questionnaire on the assessment of student’s preparedness for e-learning in the wake of Covid-19 was used to elicit relevant data for the study. The questionnaire was divided into five (5) sections, A to D eliciting the socio- demographic data; experience with the use of e-learning, availability of e-learning equipment, and the barriers associated with using e-learning. A pretest of the instrument was done in order to identify its usefulness in eliciting the required data for this research and modifications were made where necessary. Data was analyzed using the Statistical Package for the Social Sciences (SPSS version 23.0) and data was presented in tables and expressed as frequencies and percentages. The study was approved by the Ethics Review Board of the Primary Health Care Tutors Programme, University College Hospital, Ibadan. Respondents’ consent was sought prior to data collection and the confidentiality and privacy of their responses was ensured.

Results

Assessment of the respondents’ sociodemographic characteristics showed that out of the 203 participants that took part in this study, the largest proportion of them were aged between 31 and 35 years 46 (22.7%), were from the department of Community Health Officers 76 (37.4%), were in their first year of study 77 (37.9%), and had obtained the West African Examination Certificate as their highest level of education 75 (36.9%). Most of them were however females 145 (71.4%) and were single 106 (52.2%). These details are shown in Table 1.

As seen in Table 2, most of the students had knowledge of computers 109 (53.7%), 146 (71.4%) could browse with their phones, 130 (64.0%) of them knew how to send emails using their laptops, 114 (56.2%) used their computers to send assignments to their lecturers while as much as 155 (76.4%) were aware of having virtual meetings, and 149 (73.4%) of the respondents had participated in virtual meetings using their laptops in the past.

Regarding the respondents’ perceptions of the availability of ICT materials for, it was identified that most of the students were of the opinion that they had internet services in the institution 109 (53.7%), had a functional ICT hall in the institution 150 (73.9%), had ICT lecturers 168 (82.8%) and had a functional telecommunication network system 156 (76.8%). These are shown in Table 3.

Table 1: Sociodemographic characteristics of respondents

Sociodemographic characteristics	Frequency (n=203)	Percentage (%)
Age (years)		
15-20	37	18.3
21-25	35	17.2
26-30	40	19.7
31-35	46	22.7
36-40	29	14.2
> 40	16	7.9
Gender		
Female	145	71.4
Male	58	28.6
Departments		
PHCTC	29	14.3
CHO	76	37.4
NMPHNTNP	15	7.4
EHOTC	19	9.4
SHIM	64	31.5
Level of study		
100	77	37.9
200	58	28.6
300	33	16.3
400	35	17.2
Educational qualification		
WAEC	62	30.5
OND	41	20.2
HND	75	36.9
Degree	25	12.3
Marital status		
Single	106	52.2
Married	96	47.3
Divorced	1	0.5

Table 2: Use of e-learning among students

Questions	Frequency (n=203)	Percentage (%)
Can you browse with your phone		
Yes	146	71.9
No	57	28.1
Do you know how to send email through laptop		
Yes	130	64.0

No	73	36.0
Have you use computer to send assignment to your lecturer here		
Yes	114	56.2
No	89	43.8
Are you aware of virtual Zoom meetings		
Yes	155	76.4
No	48	23.6
Have you participated in virtual meetings with your laptop before		
Yes	149	73.4
No	54	26.6

Table 3 Availability of Information Communication and Technology (ICT) materials for e-learning

Questions	Frequency (n=203)	Percentage (%)
Do you have internet services in the institution		
Yes	109	53.7
No	94	46.3
Do you have a functional ICT hall in this institution		
Yes	150	73.9
No	53	26.1
Do you have ICT lecturers		
Yes	168	82.8
No	35	17.2
Do you have a functional telecommunication network system		
Yes	156	76.8
No	47	23.2

Enquiry of barriers to the use of e-learning during the course of study among the students revealed that insufficiency of tele-communication networks 44 (21.7%), lack of functional laptops 35 (17.2%), the lack of e-learning facilities 21 (10.3%) among other factors were some of these barriers. These are shown in Table 4.

Table 4: Perceived barriers to e-learning among the students

Barriers to e-learning use	**Frequency**	**Percentage (%)**

Tele-communication network insufficiency	44	21.7
Power supply	9	4.4
Lack of android phone	3	1.5
Lack of functional laptop	35	17.2
Lack of ICT facilities	19	9.4
Lack of functional wi-fi network connection	14	6.9
Lack of functional computer hall	19	9.4
Lack of e-learning facilities	21	10.3
No access to e-learning books	18	8.9
Lack of functional email address	3	1.5
Inability to operate android phone for e-learning	13	6.4
Inability to operate the computer	5	2.5

Discussion

In this study conducted to assess students' readiness for the adoption of e-learning at the Federal Training centre for teachers for health sciences, University of Ibadan, it was identified that a majority of the students had experienced the use of e-learning in one way or the other, which was however not devoid of certain limitations.

Concerning the use of e-learning among the students, it was found that majority of the students were skillful in using their phones to surf the internet, send emails and assignments using laptops as well as participate in virtual meetings which are all rudimentary skills a student should have in preparation to engage in e-learning. This finding is in agreement with the study conducted by certain authors in Nigeria who reported favourable outcomes in terms of students being prepared to utilize e-learning approaches during the course of their education (Ojevwe & Osunade, 2020). The implication of this finding is that most students the present study were positively inclined to adopt e-learning modalities as an alternative to the traditional face-to-face learning approach. This is because they possessed various skills that could help them in sourcing educational information online, interacting with their lecturers online through virtual meetings, receiving assignments and submitting the same electronically. It is essential that as globalization trends continue to expand around the globe in terms of trade, education, production of goods and

services, and so on; the need for inculcating ICT-inclined skills to students should be treated as paramount (Krubu et al., 2021). This can be a necessary initiative which can favorably influence the health of the populace as well as the environment in terms of reduced burning of vehicular fossil fuels, access to healthcare among persons in hard-to-reach areas via telemedicine and so on (Akor, 2019; Mahmoud et al., 2022; United Nations, 2023). The perceived preparedness of the participants in this study for the adoption of e-learning is further buttressed by most of the students' affirmative responses in terms of the availability of internet services, as well as some forms of ICT infrastructure and manpower in their institution

Concerning the possible barriers that could hinder the effective adoption of e-learning in the present study area, a number of these barriers were identified. These included the insufficiency of telecommunication networks, lack of functional laptops to use to access the internet, lack of e-learning and ICT facilities, functional computer halls, restricted access to e-learning books, and the inability to operate Android phones and computers. The result is in tandem with the findings of other studies reporting similar challenges in higher institutions, especially in developing countries (Aboagye et al., 2020; Ezinine, 2021; Habibu et al., 2012; Oyediran et al., 2020). These included the inadequacy of internet connectivity, ICT-based infrastructure and facilities among other challenges (Aboagye et al., 2020; Ezinine, 2021; Habibu et al., 2012; Oyediran et al., 2020) which all had the inadvertent effect of limiting the full utilization of ICT in teaching and learning. Within Nigeria, barriers to e-learning application have also been reported to include poor motivation and confidence of lecturers to use ICT for teaching and learning in academic institutions (Habibu et al., 2012). Considering the continuously growing benefits of the application of ICT in teaching and learning (e-learning) in present times for both teachers and students, there's really no reason why barriers to its development and use should be left to fester (Azzi-Huck & Shmis, 2020; Beheshti, & Beheshti, 2010). Its use should be seen as a matter of urgency in our academic institutions in both developed and developing countries. This is necessary as it becomes useful in promoting the attainment of certain Sustainable Development Goals before the year 2030, especially in terms of education, the environment and sustainable development (United Nations, 2023).

Conclusion

In this study that set out to identify the preparedness of students of a tertiary institution in Ibadan, Nigeria to adopt the use of e-learning in their studies, it was identified that most of the students already possessed some necessary skills that portrayed a good level of readiness to adopt e-learning. Certain barriers to the effective implementation of e-learning in the institution were however identified in this study.

Recommendations included the need for governments to see the adoption of e-learning in the educational system of Nigeria as a way to ensure the attainment of the Sustainable Development Goals.

It was also recommended that the government, management of academic institutions and other relevant educational stakeholders should see the adoption of e-learning in academic institutions as a necessary complement or alternative to traditional face-to-face learning. They should thus provide necessary infrastructure and facilities that will encourage the effective adoption of e-learning.

School authorities should also promote orientation of staff and students regarding e-learning adoption as well as ensure the provision of training and retraining of academic staff of institutions on the effective application of e-learning for teaching and learning. It is also essential that they painstakingly tackle other barriers that could limit e-learning capabilities in our academic institutions as well as identify other areas where these capabilities can be applied to increase economic productivity.

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