



COVID -19 induced virtual teaching-learning method and lecture accessibility among undergraduates in Nigerian University.

By

Omolade, Kehinde Joseph
University Library,
Ekiti State University, Ekiti State.

And

Samuel, Olufemi Olusegun (CLN)
Albert Ilemobade Library,
Federal University Of Technology, Akure

ABSTRACT

The purpose of this study is to investigate how COVID-19 induced virtual teaching-learning methods and lecture content accessibility among undergraduates in university in Nigeria using online mode such as Cisco Jabber, Zoom, Google meet, Adobe Connect e.t.c. Virtual teaching-learning methods are becoming more popular in Nigerian Universities due to the outbreak of COVID -19. Questionnaire was used as instrument for data collection. The study employed a descriptive survey research design. The target population of this study were all undergraduate students from Ekiti State University Ekiti State, Nigeria and Federal University of Technology Akure Ondo State. The sample size of 380 undergraduate was used for the study out of 23,000 undergraduates of EKSU and 20,000 undergraduate of FUTA. The findings of this study revealed that Google meet 308(85.6%) and Zoom 306(85%) were the most used Virtual teaching-learning methods that were highly available for undergraduate use in their universities. The study also revealed that undergraduates in universities in South-west, Nigeria are facing challenges of virtual teaching-learning method usage. Also undergraduates in universities in South-west, Nigeria levels of lecture accessibility from virtual teaching-learning method are poor. It also revealed that benefiting from the few teaching-learning methods they use in their university. It was recommended that more virtual teaching-learning method should be adopted in the universities to teach undergraduates. The university management should increase the bandwidth of the internet service provider by budgeting sufficient fund for it.

Keywords: Virtual teaching-learning method, lecture content accessibility,

Introduction

The outbreak of COVID-19 has resulted in schools shut all across the world. As a result of this the education system has changed dramatically, with the distinctive rise of virtual teaching-learning method in Nigeria Universities. The trend at which education is moving



research suggests that virtual teaching-learning method has been shown to increase retention of information dissemination in Nigeria Universities with less time and space (Mining, 2012). Virtual teaching-learning method is gaining more ground in Nigeria University system. But the question one may want to ask is, what is Virtual Teaching-Learning? How accessible are the lecture content? Virtual classroom is a setup that simulates lectures activities via an online medium.

Virtual teaching-learning method is defined as learning that can functionally and effectively occur in the absence of traditional classroom environments (Simonson & Schlosser, 2006). The word Virtual teaching-learning method cannot be completed without quickly talk about E-Learning. E-Learning, or electronic learning, is the delivery of learning and training through digital resources (Daradoumis, Bassi, Xhafa & Caballé, 2013). According to Garcia, Tapia, Alonso, Rodriguez and Corchado (2012) e-Learning is based on formalized learning, it is provided through electronic devices such as computers, tablets, and even cellular phones that are connected to the internet. This makes it easy for undergraduates to learn anytime, anywhere, with few, if any, restrictions. E-learning Saves time and money – This one is very good for us in Nigeria. Rao (2016) noted that, E-learning reduces time away from the workplace, eliminates the need for travel, and removes the need for classroom-based training, thereby saving us some money.

Virtual teaching-learning method increases the capacity of educators to achieve a great degree of larger coverage for their target audience and it ensures that the message is communicated consistently to them appropriately (Rennie & Morrison 2013). This results in all learners receiving the same training. The question now is that what are the achievement and difficulties that undergraduates have gone through in the past one year in accessing lecture content from virtual method of teaching learning? They are Procrastination on



assignments, Inconsistent class attendance e.t.c. Virtual teaching-learning method is fast gaining acceptance in Nigeria and globally in recent times (Orij & Anikpo 2019). With the COVID-19 pandemic, there is a rapid and growing interest in digital learning platforms by both learners and tutors alike as an alternative to physical classroom and chalkboard learning. Thomson (2010) noted that, Virtual teaching-learning method gives students the freedom to learn at their convenience, and at a pace that is right for them. It also brings flexibilities to undergraduates. The quest for virtual learning will probably continue in the wake of the COVID-19 pandemic. Virtual teaching-learning method utilizes electronic technologies to access educational curriculum outside of a traditional classroom. In most cases, it refers to a course, program or degree delivered completely online. It also gives opportunity for coursework to be refreshed and updated whenever needed.

Lectures can be an oral presentation intended to disseminate information to it users or to teach people about a particular subject. Virtual teaching-learning methods are used to convey critical information, history, background, theories, and equations to larger audience of undergraduates. The lecture content in Virtual teaching-learning methods has a significant role to play in the life undergraduate. The content in the lecture are used by undergraduates to learn and aware of their discipline. It will allow them to achieve their mission in life. The geographical region covered in the study is South-west, Nigeria. There are six states in South-west, Nigeria. The states are Ekiti, Lagos Ogun, Ondo, Osun, and Oyo. Due to time and resources available, the study was limited to Ekiti and Ondo States. A state University was chosen from Ekiti State why Federal University was chosen from Ondo State. Ekiti state University has undergraduate population of 23,000 why Federal University of Technology, Akure has 15,000 undergraduates.

Purpose of the Study



The main purpose of this study is to investigate how COVID-19 induced Virtual teaching-learning method and lecture accessibility among undergraduates in universities.

Specifically, it sets out to:

- 1 identify the virtual teaching-learning methods that were available for use in universities.
- 2 investigate the challenges of virtual teaching-learning method usage among undergraduates in universities.
- 3 ascertain the accessibility level of lectures from virtual teaching-learning method among undergraduates in universities.
- 4 investigate the benefits that can be achieve by using virtual teaching-learning method among undergraduates in universities.

Statement of the problem

In the recent time undergraduates may find it difficult to have significant participation in Virtual teaching- learning methods in their various campuses. Many of them were used to face to face classroom lecture method. There has been a steep boost in the popularity of virtual classrooms recently. Especially after the COVID-19 situation, the university needed a virtual teaching and learning environment that would allow not only the students to learn virtually from anywhere but also simulate the actual classroom scenarios.

Research Questions

The following questions were answered in this study:

- 1 What are the virtual teaching-learning methods that were available for use in universities?
- 2 What are the challenges of virtual teaching-learning method usage among undergraduates in universities?



- 3 What are the levels of lecture accessibility from virtual teaching-learning method usage among undergraduates in universities?
- 4 What are the benefits that can be achieve by using virtual teaching-learning method among undergraduates in universities?

Research Hypothesis

One research hypothesis was formulated for the study which was tested at 0.05 level of significance and this is:

- (1) There is no significant relationship between virtual teaching-learning method and lecture accessibility among undergraduate in Universities.

Literature Review

Virtual teaching-learning is a teaching-learning that utilizes electronic technologies to access educational curriculum outside of a traditional classroom. According to Adeyeye, Afolabi and Ayo (2014) teaching by making lecture notes available on the intranet is one of the types of virtual teaching-learning method that were in practice in Covenant University, Ota, Nigeria and also the creation of a virtual campus which enhance the level of e-participation of undergraduate. In the study of Mukhtar, Javed, Arooj and Sethi, (2020) it was noted that some of the study of virtual teaching learning method available for use in Pakistan institute are Microsoft mud, Google meet and Zoom. In the study, students reported some benefit in using virtual teaching learning such as online skill which they derived from using virtual teaching-learning method.

Yang and Meinel (2014) noted in their study that recording of lectures on video and later be publish online are the types of virtual teaching learning method that were available for use in their institution Virtual teaching-leaning method in Nigeria Universities and educational institutions is still a dream because of poor ICT infrastructure and other socio-economic



reasons. Due to very high primary cost of infrastructural development and to increase public access to internet and other ICTs, the developing countries are still far behind from getting benefit from e-learning (Ajadi, Salawu, & Adeoye 2008). However, attitude of users, inadequate internet facility, inadequate training of users affect the successful adoption and challenges to Virtual teaching-learning in Universities (Garcia, Tapia, Alonso, Rodriguez, & Corchado 2012). Lack of facility needed for teaching-learning method in the university is one of the biggest challenges been face in Nigeria University. In the study of Achebe, Okafor, Osadebe, Njoku and Ewa (2017) it was revealed that most of the universities they studied lacked the required facilities needed for teaching virtual teaching-learning method.

In the study of Demak, Syamsi and Tanra (2021) it was revealed that undergraduates face challenges of poor internet connection problem. In the study carried out by Mukhtar, Javed, Aroo and Sethi(2020) it was revealed that undergraduate enjoy accessibilities to lectures in virtual teaching-learning method. There could be some benefit undergraduate do received through virtual teaching learning method in the University. Mukhtar, Javed, Aroo and Sethi (2020) also noted that undergraduates benefit flexibility in the use of virtual teaching-learning method.

Moreover, comfort with remote learning are some of the benefits that were been received by undergraduate in virtual teaching-learning method (Serhan, 2020).

Research Design

In order to collect in-depth information about students' views on Virtual teaching-learning methods and lecture accessibility questionnaire was used as instrument for data collection. The reliability of the instrument was tested using test re-test, Pearson's Product Moment Correlation Coefficient. The study employed a descriptive survey research design. The target population of this study were all undergraduate students from Ekiti State University Ekiti State, Nigeria and Federal University of Technology Akure Ondo State. The sample size of



380 undergraduate was used for the study out of 23,000 undergraduates of EKSU and 20,000 undergraduate of FUTA. Kreycie and Morgan (1970) asserted that to determine sample size from a given population, the research division of the National Education Association has published a formula for determining the sample size and a table was arrived at.

Data Analysis and Discussion

The research instrument comprises four sections namely: Section A: Bio Data Information, this section was designed to collect data on the demographic profile of the undergraduates. It includes name of institution, level of study and gender. Section B: Virtual teaching-learning methods available for use in universities. Section C: Challenges of virtual teaching-learning method usage among undergraduates in universities. Section D: levels of lecture accessibility from virtual teaching-learning method usage among undergraduates in universities. Section E: Benefits that can be achieve by using virtual teaching-learning method among undergraduates in universities. Of the 500 questionnaire distributed, 360 (85%) were retrieved and found usable for the study. The results of data collected and analysed to achieve the stated objectives of this study are highlighted below

Table 1: Questionnaire Response Rate

| Name of University | No of Questionnaire Administered | No of Questionnaire Retrieved | Percentage (%) Retrieved |
|---|---|--------------------------------------|---------------------------------|
| Ekiti State University, Ado-Ekiti | 200 | 194 | (51.1%) |
| Federal University of Technology, Akure | 180 | 166 | (43.6%) |
| TOTAL | 380 | 360 | (94.7%) |



A total number of three hundred and eighty (380) copies of questionnaire were administered to respondents at the Ekiti State University, Ado-Ekiti and Federal University of Technology, Akure. However, only three hundred and sixty (360) copies were duly filled and returned with useful responses by the respondents giving 94.7% response rate. The response rate of (94.7%) is considered adequate for the study because the standard and adequate response for most study is 60% (Dulle, Minish-Majanja&Cloete, 2010).

Table 2. Distribution of Respondents by Level of Study

| Level of study | Frequency | Percentage |
|----------------|------------|------------|
| 100 | 67 | 18.6 |
| 200 | 125 | 34.7 |
| 300 | 88 | 24.4 |
| 400 | 30 | 8.3 |
| 500 | 50 | 13.9 |
| TOTAL | 360 | 100 |

As shown in Table 2, there are 67(18.6%) respondents in 100 level, 125(34.7%) in 200 level, 88(24.4%) in 300 level, 30(8.3%) in 400 level and 50(13.9%) in 500 level in Ekiti State University, Ado-Ekiti and Federal University of Technology, Akure. . This implies that there were more respondents of 200 levels than their counterparts in 100, 300, 400 and 500 levels respectively

Table 3. Distribution of Respondents by Gender

| Gender | Frequency | Percent |
|--------------|------------|------------|
| Male | 183 | 50.8 |
| Female | 177 | 49.2 |
| TOTAL | 360 | 100 |

As shown in Table 3, the male respondents 183(50.8%) in Ekiti State University, Ado-Ekiti and Federal University of Technology, Akure were more than their female respondents which was 177(49.2%).

**Table 4. Research Question1.** Virtual Teaching-Learning methods available for use in my university.

| S/N | PARTICULARS | Used (%) | Not Used (%) |
|-----|----------------------|------------|--------------|
| 1 | Cisco Jabber | 0(0%) | 360(100%) |
| 2 | Zoom | 306(85%) | 54(15%) |
| 3 | Telegram | 195(54.2%) | 165(45.8%) |
| 4 | Adobe Connect. | 144(40%) | 216(60%) |
| 5 | Schoology | 0(0%) | 360(100%) |
| 6 | Panopto | 0(0%) | 360(100%) |
| 7 | Tovuti LMS. | 0(0%) | 360(100%) |
| 8 | Top Hat | 0(0%) | 360(100%) |
| 9 | Google meet | 308(85.6%) | 52(14.4%) |
| 10 | Google hangouts | 0(0%) | 360(100%) |
| 11 | Skype | 110(30.6%) | 250(69.4%) |
| 12 | Microsoft Teams | 221(61.4%) | 139(38.6%) |
| 13 | Cisco Webex Meetings | 0(0%) | 360(100%) |
| 14 | BlueJeans | 0(0%) | 360(100%) |
| 15 | GoToMeeting | 44(12.2%) | 316(87.8%) |
| 16 | Join.me | 0(0%) | 360(100%) |
| 17 | Zoho Meeting | 0(0%) | 360(100%) |
| 18 | TeamViewer | 92(25.6%) | 268(74.4%) |

As shown in Table 4 respondents indicated that, Google meet 308(85.6%) and Zoom 306(85%) were the most used Virtual teaching-learning methods that were highly available for undergraduate use in their universities.

Table 5: Research Question 2. Challenges of virtual teaching-learning method usage among undergraduates in universities.

| S/N | PARTICULARS | SA | A | D | SD | Mean |
|-----|-------------------------------------|-----|-----|-----|----|-------------|
| 1 | Inadequate training of users | 106 | 99 | 103 | 52 | 2.72 |
| 2 | Teachers feel unsupported | 101 | 108 | 98 | 53 | 2.71 |
| 3 | Dealing with distractions | 101 | 107 | 90 | 62 | 2.70 |
| 4 | Technical Issues | 101 | 110 | 97 | 52 | 2.72 |
| 5 | Students struggling with isolation. | 100 | 110 | 98 | 52 | 2.71 |
| 6 | Time Management. | 100 | 114 | 92 | 54 | 2.74 |



| | | | | | | |
|----|-------------------------------|-----|-----|----|----|-------------|
| 7 | Distractions Everywhere | 97 | 109 | 90 | 64 | 2.70 |
| 8 | Scheduling Problems | 101 | 107 | 80 | 72 | 2.70 |
| 9 | Poor Online Training Content. | 98 | 111 | 99 | 52 | 2.71 |
| 10 | Epilepsy power supply | 101 | 112 | 97 | 50 | 2.73 |
| 11 | Unsteady internet access | 101 | 121 | 96 | 42 | 2.78 |
| | Aggregate Mean | | | | | 2.72 |
| | Criterion Mean | | | | | 2.50 |

Table 5 reveals that the aggregate mean of 2.72 is greater than the criterion mean of 2.50, it can be concluded that undergraduates in universities in South-west, Nigeria are facing challenges of virtual teaching-learning method usage.

Table 6: Research Question 3. Levels of lecture accessibility from virtual teaching-learning method usage among undergraduates in universities.

| S/N | PARTICULARS | Highly Accessible | Accessible | Barely Accessible | Not Accessible | Mean |
|-----|-----------------------|-------------------|------------|-------------------|----------------|-------------|
| 1 | Cisco Jabber | 0 | 0 | 0 | 360 | 1.00 |
| 2 | Zoom | 124 | 129 | 69 | 38 | 2.94 |
| 3 | Telegram | 0 | 0 | 0 | 360 | 1.00 |
| 4 | Adobe Connect | 0 | 0 | 0 | 360 | 1.00 |
| 5 | Schoology | 0 | 0 | 0 | 360 | 1.00 |
| 6 | Panopto | 0 | 0 | 0 | 360 | 1.00 |
| 7 | Tovuti LMS. | 0 | 0 | 0 | 360 | 1.00 |
| 8 | Top Hat | 0 | 0 | 0 | 360 | 1.00 |
| 9 | Google meet | 110 | 133 | 72 | 45 | 2.86 |
| 10 | Google hangouts | 0 | 0 | 0 | 360 | 1.00 |
| 11 | Skype | 0 | 9 | 0 | 351 | 1.05 |
| 12 | Microsoft Teams | 124 | 129 | 69 | 38 | 2.94 |
| 13 | Cisco Webex Meetings | 0 | 0 | 0 | 360 | 1.00 |
| 14 | BlueJeans | 0 | 0 | 0 | 360 | 1.00 |
| 15 | GoToMeeting | 0 | 0 | 0 | 360 | 1.00 |
| 16 | Join.me | 0 | 0 | 0 | 360 | 1.00 |
| 17 | Zoho Meeting | 0 | 0 | 0 | 360 | 1.00 |
| 18 | TeamViewer | 145 | 84 | 59 | 72 | 2.84 |
| | Aggregate Mean | | | | | 1.42 |
| | Criterion mean | | | | | 2.50 |



Table 6 reveals that the aggregate mean of 1.42 is lesser than the criterion mean of 2.50, it can be concluded that undergraduates in universities in South-west, Nigeria levels of lecture accessibility from virtual teaching-learning method is poor because many of the virtual teaching-learning method lecture are not in use in their university not to talk of been accessible.

Table 7: Research Question 4. Benefits that can be achieve by using virtual teaching-learning method among undergraduates in universities.

| S/N | PARTICULARS | SA | A | D | SD | Mean |
|-----|---|----|-----|-----|----|-------------|
| 1 | I have significantly improve on receiving lectures from virtual teaching-learning method | 13 | 183 | 129 | 25 | 2.46 |
| 2 | I have establish a sense of comfort from virtual teaching-learning method and develop a community of learners | 24 | 167 | 136 | 33 | 2.51 |
| 3 | I always create and maintain a strong presence when receiving lectures from virtual teaching-learning method | 31 | 150 | 148 | 31 | 2.50 |
| 4 | I am now flexible in receiving lectures from virtual teaching-learning method | 33 | 150 | 128 | 49 | 2.46 |
| 5 | I can now learn on the go in receiving lectures from virtual teaching-learning method | 59 | 160 | 135 | 6 | 2.76 |
| 6 | Virtual teaching-learning method allows me to participate more because it reduces chyness. | 32 | 196 | 97 | 35 | 2.63 |
| 7 | Virtual teaching-learning method is more comfortable for me than face-to-face classroom | 58 | 190 | 75 | 37 | 2.75 |
| 8 | I always have immediate feed back from Virtual teaching-learning method | 39 | 233 | 76 | 12 | 2.83 |
| 9 | I can now navigate on my computer easily during Virtual teaching-learning | 37 | 138 | 165 | 20 | 2.53 |
| | Aggregate Mean | | | | | 2.60 |
| | Criterion Mean | | | | | 2.50 |



Table 7 reveals that the aggregate mean of 2.60 is greater than the criterion mean of 2.50, it can be concluded that undergraduates in universities in South-west, Nigeria are benefiting from the few teaching-learning methods they use in their university.

Table 8: Testing of the Hypothesis

Hypothesis one (Ho1): There is no significant relationship between virtual teaching-learning method and lecture accessibility among undergraduate in Universities

Correlations

| | | Level of lecture accessibility | Virtual Teaching-Learning methods |
|-----------------------------------|---------------------|--------------------------------|-----------------------------------|
| Level of lecture accessibility | Pearson Correlation | 1 | -.105* |
| | Sig. (2-tailed) | | .047 |
| | N | 360 | 360 |
| Virtual Teaching-Learning methods | Pearson Correlation | -.105* | 1 |
| | Sig. (2-tailed) | .047 | |
| | N | 360 | 360 |

*. Correlation is significant at the 0.05 level (2-tailed).

Table 8 reveals that the Pearson’s Product Moment Correlation Coefficient (r) is not statistically significant ($r=.105$ $n=360$, $p<0.047$). The correlation is also not significant at 0.047 level which is lesser than the significant level of 0.05 level of significance upon which the hypothesis was tested. This means that the correlation is not highly significant at 0.05 level. Therefore, the null hypothesis stating that there is no significant relationship between virtual teaching-learning method and lecture accessibility by undergraduates is accepted. This finding indicates that there is no significant relationship between virtual teaching-learning method and lecture accessibility among undergraduate in Universities in South-west, Nigeria. This implies that virtual teaching-learning method of undergraduates do not increase their Level of lecture accessibility.



Discussion of Findings. The findings of this study as presented are derived from the analysis of data collected from respondents based on the research questions formulated. Research Question 1. What are the virtual teaching-learning methods that were available for use in universities? The findings of this study revealed that Google meet 308(85.6%) and Zoom 306(85%) were the most used Virtual teaching-learning methods that were highly available for undergraduate use in their universities. This is in agreement with Mukhtar, Javed, Arooj and Sethi, (2020) Research Question 2 what are the challenges of virtual teaching-learning method usage among undergraduates in universities? The findings of the study reveal that undergraduates in universities in South-west, Nigeria are facing challenges of virtual teaching-learning method usage. This is in agreement with Demak, Syamsi and Tanra (2021). Research Question 3 What are the levels of lecture accessibility from virtual teaching-learning method usage among undergraduates in universities? The finding of the study reveals that undergraduates in universities in South-west, Nigeria levels of lecture accessibility from virtual teaching-learning method are poor. This is not in agreement with Mukhtar, Javed, Aroo and Sethi(2020). Research Question 4 What are the benefits that can be achieve by using virtual teaching-learning method among undergraduates in universities? The finding of the study reveals that undergraduates in universities in South-west, Nigeria are benefiting from the few teaching-learning methods they use in their university. This is in agreement with Serhan (2020).

Conclusion and Recommendations. It could be deduced from the results of this study that: Google meet 308(85.6%) and Zoom 306(85%) were the most used Virtual teaching-learning methods that were highly available for undergraduate use in their universities. It could be said that undergraduates in universities in South-west, Nigeria are facing challenges of virtual teaching-learning method usage. The study also found out that undergraduates in universities in South-west, Nigeria levels of lecture accessibility from virtual teaching-learning method are poor. This study also showed that undergraduates in universities in South-west, Nigeria are benefiting from the few



teaching-learning methods they use in their universities. It could also be said that there is no significant relationship between virtual teaching-learning method and lecture accessibility among undergraduate in Universities in South-west, Nigeria. It is recommended that more virtual teaching-learning method should be adopted in the universities to teach undergraduates. The university management should increase the bandwidth of the internet service provider by budgeting sufficient fund for it.

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