

Assessing Zoom Software Utilization in Teaching and Learning in Tertiary Institutions in Plateau State

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Abstract

The study assessed Zoom software utilization in teaching and learning in tertiary institutions in Plateau State. To achieve the aims of the study, two research questions were raised, and two hypotheses were formulated to guide the study. A descriptive survey design was adopted for the study. The population of the study comprises 58 business education lecturers who were all involved in the study. A 28-item questionnaire titled "Assessing Zoom Software Utilization in Teaching and Learning scale" (AZSUTL) was used for data collection. The instrument was validated by three experts, and 88 Cronbach Alpha Reliability Coefficients were the overall reliability index for the instrument. The data collected were analyzed using the mean, standard deviation, percentages, and one sample t-test. The findings of the study revealed that Zoom software is not available and that the utilization of Zoom software for teaching and learning is significantly low. It was however recommended, among others, that the management of tertiary institutions should liaise with all levels of government agencies to make Zoom software available in order to aid teaching and learning in tertiary institutions in Plateau State.

Key words: *Assessing, zoom Software, utilization, teaching and learning*

Introduction

Zoom is a cloud-based service that offered video conferencing capability with a content-sharing facility. It is one of the newest software-based conferences that allowed both students and teachers to have an effective teaching and learning process. Zoom technology was one of the prominent tools of teaching and learning during the COVID 19 global pandemic in the education sector, especially in Nigeria's educational system. The availability zoom technology is the characteristic of a resource that is committable, operable, or usable upon demand to perform its designated or required functions in teaching and learning. Thus, to enhance effective teaching and learning in tertiary institutions adequate zoom technology

must be available and fully utilized. Ubulom and Enyekit (2017) in Atah (2019) affirmed that to ensure optimum teaching and learning under the best of conditions in the 21st century, zoom technology facilities are expected to be adequately and sufficiently provided with requisite instructional facilities and equipment in Nigeria universities. Ukah and Atah (2022) confirm that availability of zoom software could bring stressed free teaching and learning among teachers and students in Nigerian tertiary institutions replacing the face-to-face mode of teaching and learning with the virtual.

The availability and use of zooms Technology as an aspect of the e-world in the teaching and learning of business education programmes in Nigerian tertiary institutions will likely reduce the vastness of business education content to mere interaction and discussion classes from all sides of the globe. Zooms technology has the potential to transform how and when learners learn. Zooms delivers content through electronic Information and Communication Technology (ICT). According to Okiridu and Ogwunte, (2018), the use of these facilities involves various methods which include a systematic feedback system, computer-based operation network, video conferencing and audio conferencing, internet worldwide websites and computer-assisted instruction. This delivery method increases the possibilities where learners could engage in lifelong learning (Ateb, Atsu and Atah, 2021).

Availability of zooms software is one of the basic requirements for the successful adoption of e-learning technology in tertiary institutions in Nigeria. Gabadeen, Alabi and Akinnubi, (2015) pointed out that for e-learning to be successfully utilized; it must be available, accessible for utilization and in good condition at all times. Some of the e-learning technology includes projectors, PCs, e-library, Google search, email, and WhatsApp among others. Availability of internet facilities particularly the intranet aid business education lecturers and students, with laptops to type and prepare power point and use a projector and prepare assignments. These available e-learning technologies to be sustained needs to be maintained for continuous utilization (Atah, Ukah and Crossdele, 2019)

Utilization is a noun form of the adverb 'utility' which means the act or process of using a particular thing, idea or method for the actualization of a purpose (Dogo, 2008). Akeke, Alokun & Atah (2019) in Agim, Atah and Ochui (2022) view utilization as the art of putting things or resources that are tangible or intangible to proper use. Utilization of resources refers to the equitable use of resources accruable to an enterprise, especially in the education industry for effective implementation of the school curriculum. Utilization of zoom technology in teaching and learning in tertiary institutions requires teachers' knowledge in the subject area, as well as an understanding of how students learn using varied zoom software, and a good level of technical expertise among the teachers (Fan, 2011). It is on this basis that Ogbuegbuna-Okwenu (2018) opined that technology in education does not on its own achieve any meaningful values without being effectively utilized. It is an unquestionable fact that tertiary institutions teachers would require some prerequisite skills for effective utilization of various zoom software in instructional delivery. Therefore, Adeogun (2010) lamented that utilizing zoom ICT facilities in teaching and learning would be a mere dream if teachers and other education personnel are not ICT literate and do not have the confidence integrating ICT for teaching. Supporting the above assertion, Baylor and Rosink (2012) stated that unless educational administrators have the skills, knowledge and attitudes necessary to infuse it into the curriculum. Therefore, it is important that universities lecturers undergo ICT training that will equip them with what is needed to help them utilize zoom Technology in instructional delivery. It is on this basis that Bamigboye and Bankole (2013) identified the

following as some of the pre-requisite skills required for effective utilization of zoom technologies which including the ability to locate and run an application programme such as word processing skills, ability to search for files on computer system, ability to connect the computer and its peripherals, ability to access information on CD/DVD, ability to organize electronic files into folders, ability to print to various networked printers and so on.

It is against this background that Olelewe (2014) lamented that lecturers in Nigerian tertiary institutions are not utilizing zoom technology in their instruction despite government and private efforts in the procurement of ICT facilities in tertiary institutions in Nigeria. Oliver (2009) earlier observed that zoom Technology has not been extensively utilized in the education system in Nigeria when compared to other developed countries. Thus identified some reasons for the low utilization of zoom technology in Nigeria's education system include high costs associated with implementing this Technology, limited information sharing, limited skills of teachers/lecturers in the use of ICTs, poor power supply, problems with internet network failure, management attitude, and lack of technical assistance. These challenges or perhaps constraints could be overcome by adopting some dependable strategies that would enhance the effective utilization of zoom Technology in instructional delivery in Nigeria tertiary institutions..

Teaching and learning are inseparable concepts with learning playing more of judgment role to teaching. It is believed that unless the child learns the teacher has not taught. Though teaching and learning are intimately linked processes and are interdependent as well as interwoven, teaching is a social phenomenon, while learning is a psychological phenomenon. It is teaching which generally results in to learning but there can be learning without teaching. Teachers in the recent trend of teaching and learning are therefore seen as facilitators or guide, and I believe this can better be enhance through utilization of zoom technology facilities (Okon and Francis 2013). The use of zoom technology could grants Business education lecturers to present the content of their lessons in various ways. Zoom's screen sharing can give Business education lecturers a great opportunity to develop business students' intercultural skills by sharing engaging materials such as videos and articles, and presentations. During lessons and after watching them, Business education lecturers can encourage students to use active questioning to analyze and evaluate their learning. Business education lecturers could also ask students to reflect on their lessons by recording a video and sharing it (Bessong and Atah, 2019).

With the involvement of zoom technology in Nigeria tertiary institutions, the teaching and learning could become effective and lively through a cloud-based service that offers meetings and provides content sharing with video conferencing facilities with the presence of teachers and students through different devices such as mobile, laptops, computer (Purnima, 2021). Churwurah & Atah (2019), in Agim, Ochui and Atah, (2020) opined that zoom technology could be of benefit in teaching and learning in Nigeria's educational system due to the high level of insecurity befallen our dear country, Nigeria. Atah and Abang (2022) agreed that we are living in a modern world where the presence of zoom technology in the educational sector could help to replace the face-to-face mode of teaching with the virtual. The physical classroom environment could be completely switched to virtual learning in Nigerian tertiary institutions. Thus, this paper assessing zoom software utilization in teaching and learning in tertiary institutions in Plateau State.

Purpose of the Study

The main purpose of this study was to assess the zoom software utilization in teaching and learning in tertiary institutions in Plateau State. Specifically, the study sought to ascertain:

1. The zoom software technology available for teaching and learning in tertiary institutions in Plateau State
2. The extent of zoom software technology is utilized in teaching and learning in tertiary institutions in Plateau State

Research Questions

The following research questions were raised to guide the study:

1. What are the zoom software technology available for teaching and learning in tertiary institutions in Plateau State?
2. To what extent are zoom software technology utilized in teaching and learning in tertiary institutions in Plateau State?

Hypotheses

The null hypothesis was formulated to guide the study and was tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings on the extent of software technology availability in tertiary institutions in Plateau State
2. There is no significant difference in the mean ratings on the extent of zoom software technology utilization in tertiary institutions in Plateau State.

Methodology

The research design adopted for this study was a descriptive survey research design. The population of this study comprises fifty-eight (58) lecturers in tertiary institutions in Plateau State. The instrument used was a questionnaire titled: "Assessing Zoom software Utilization in Teaching and Learning Questionnaire" (AZSUTLQ) with twenty-eight (28) items. The instrument was validated by two (2) experts in the field of Business Education and one (1) expert from Test and measurement all from university of Calabar, Nigeria. A trial test was carried out on fifteen (15) business education lecturers who were not part of the main study. The reliability evidence was established using Cronbach alpha and the coefficient of the sub scale .88 which was the overall reliability index for the instrument. The researchers administered fifty-eight (58) copies of the questionnaire to the respondents which were correctly filled and retrieved, representing 100% of returning rate. The administration was done through physical contact by the researchers and relevant data necessary to answer the research questions was collected. Data collected were analyzed using mean, standard deviation and percentages to answer the research questions and the hypotheses were tested at a 0.05 level of significance using a one-sample t-test. The result is presented appropriately in the findings of the study.

Results of the findings

Research Question One

What are the zoom software technology available for teaching and learning in tertiary institutions in Plateau State?

The data providing answers to the above research question are presented in Table 1 below.

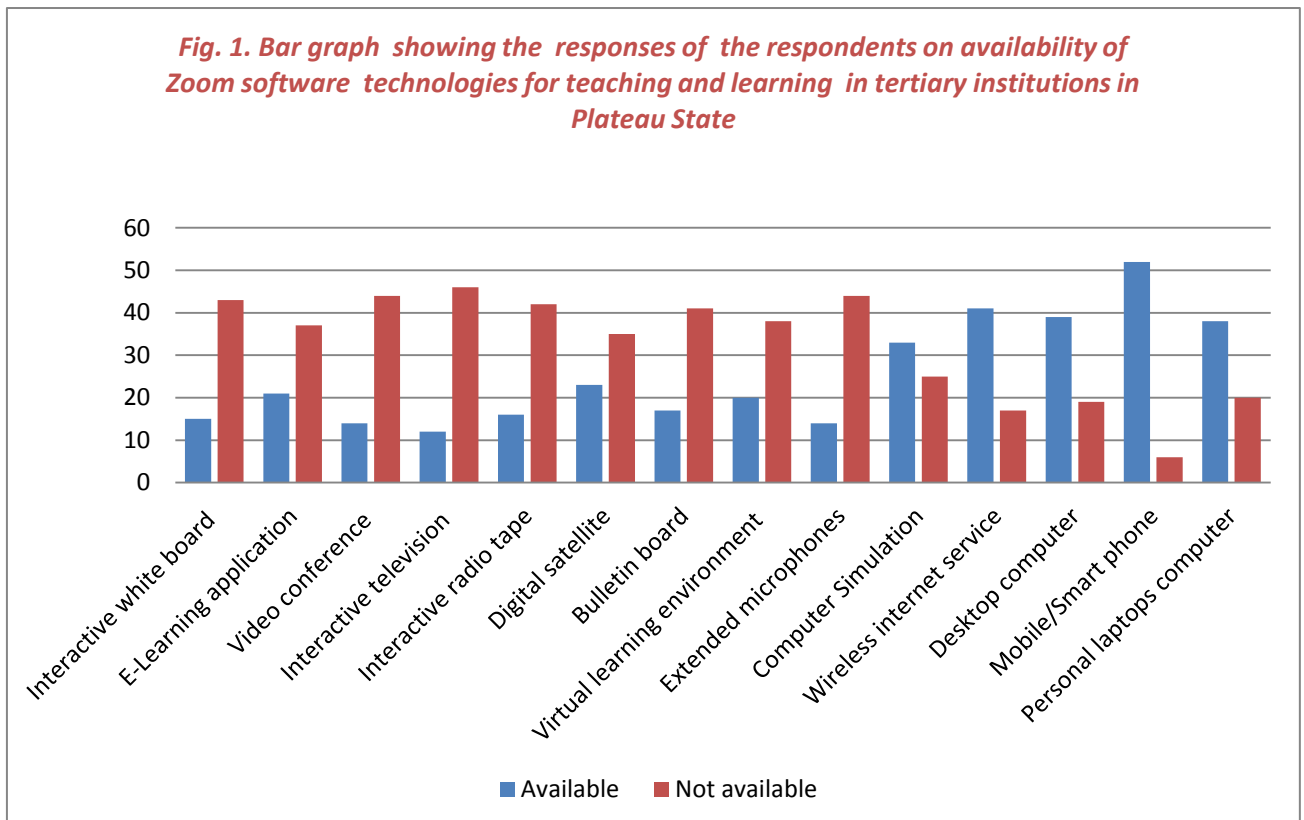
Table 1: Percentage result on the assessing the available zoom software for teaching and learning in tertiary institutions in Plateau State

S/	Items	Available	(%)	Not	(%)	Decision
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N				available		
1	Interactive white board	15	25.86	43	74.14	NA
2	E-Learning application	21	36.20	37	63.79	NA
3	Video conference	14	24.14	44	75.86	NA
4	Interactive television	12	20.68	46	79.31	NA
5	Interactive radio tape	16	27.59	42	72.41	NA
6	Digital satellite	23	39.66	35	60.34	NA
7	Bulletin board	17	29.31	41	70.69	NA
8	Virtual learning environment	20	34.48	38	65.51	NA
9	Extended microphones	14	24.14	44	75.86	NA
10	Computer Simulation	33	56.90	25	43.10	A
11	Wireless internet service	41	70.69	17	29.31	A
12	Desktop computer	39	67.24	19	32.76	A
13	Mobile/Smart phone	52	89.66	6	10.34	A
14	Personal laptops computer	38	65.52	20	34.48	A
	Grand Mean	43.71		56.28		NA

Key: A = Available and NA = Not Available

Based on the result in table 1 above, the following zoom software was available for teaching and learning; computer simulation, wireless internet service, desktop computer, mobile/smartphone and personal laptops computer and the following zoom software technology were not available for the teaching and learning; interactive whiteboard, E-learning application, video conference, interactive television, interactive radio tape, digital satellite, bulletin board, virtual learning environment and extended microphones. On a general note, this implies that zoom software is not available for teaching and learning in tertiary institutions in Plateau State. The result is further presented in the bar graph in Fig 1.



Research Question Two

To what extent are zoom software technology utilized in teaching and learning in tertiary institutions in Plateau State?

The data providing answers to the above research question are presented in Table 2 below

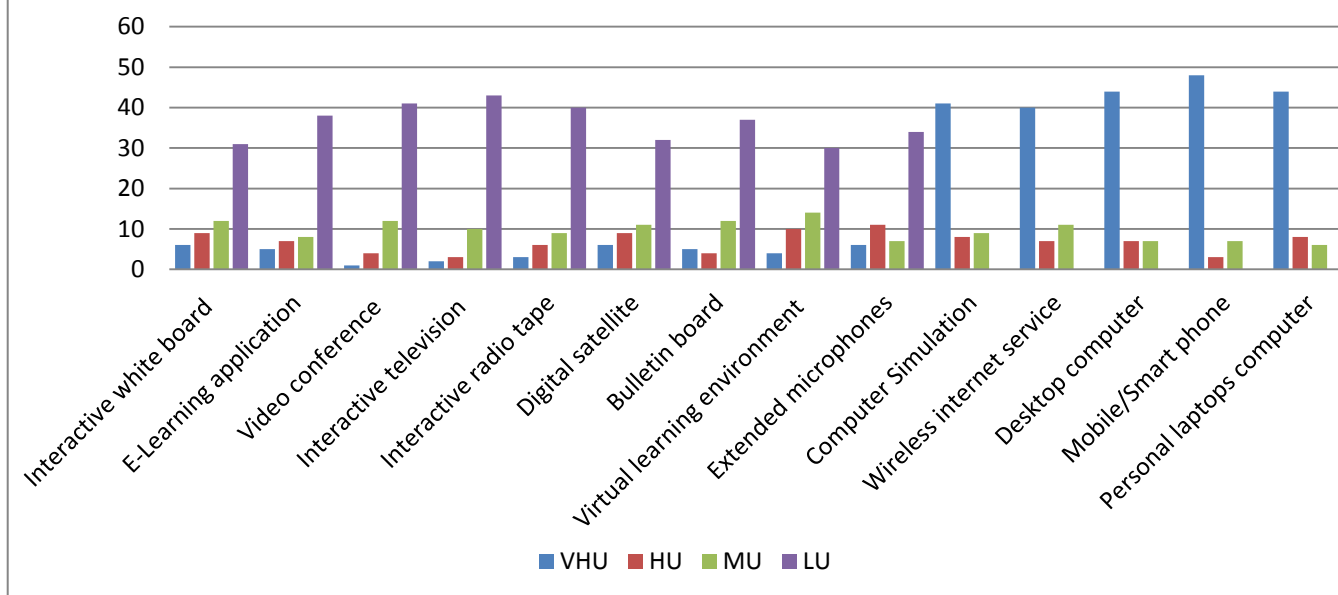
Table 2: Percentage Result on the extent of zoom software utilization for teaching and learning in tertiary institutions in Plateau State

S/N	Items	VHU	HU	MU	LU	Mean	SD	Decision
15	Interactive white board	6	9	12	31	1.82	0.51	LU
16	E-Learning application	5	7	8	38	1.63	0.43	LU
17	Video conference	1	4	12	41	1.39	0.64	LU
18	Interactive television	2	3	10	43	0.14	0.58	LU
19	Interactive radio tape	3	6	9	40	1.51	0.76	LU
20	Digital satellite	6	9	11	32	1.81	0.50	LU
21	Bulletin board	5	4	12	37	1.6	0.69	LU
22	Virtual learning environment	4	10	14	30	1.8	0.70	LU
23	Extended microphones	6	11	7	34	1.81	0.71	LU
24	Computer Simulation	41	8	9	-	3.55	0.67	VHU
25	Wireless internet service	40	7	11	-	3.5	0.54	VHU
26	Desktop computer	44	7	7	-	3.64	0.77	VHU
27	Mobile/Smart phone	48	3	7	-	3.71	0.78	VHU
28	Personal laptops computer	44	8	6	-	3.65	0.72	VHU
	Grand Mean					2.25	0.418	LU

Key: VHU = Very Highly Utilized; HU = Highly Utilized; MU = Moderate Utilized; LU = Lowly Utilized

Based on the results in Table 2, showed that items 15- 23 (interactive white board, E-learning application, video conference, interactive television, interactive radio tape, digital satellite, bulletin board, virtual learning environment and extended microphones) were lowly utilized (LU) while the items 24 – 28 (computer simulation, wireless internet service, desktop computer, mobile/smart phone and personal laptops computer) were Very Highly Utilized (VHU). On a general note, this implies that zoom software technology is not utilized for teaching and learning in tertiary institutions in Plateau State. The result is further presented in the bar graph in Fig 2.

Figure 2: Bar graph showing the responses of respondents on the utilization of zoom technologies for teaching and learning in tertiary institutions in Plateau State



Hypotheses One

There is no significant difference in the mean ratings on the extent of zoom software technology availability in tertiary institutions in Plateau State

Table 3: One sample t-test result on respondents’ responses on mean rating of the extent of availability of zoom software technology in teaching and learning tertiary institutions in Plateau State

Items	N	Mean	Std. Deviation	T=cal	Df	Sig
Interactive white board	58	1.82	0.51	20.140	57	.151
E-Learning application	58	1.63	0.43	23.835	57	.072
Video conference	58	1.39	0.64	27.296	57	.122
Interactive television	58	0.14	0.58	34.589	57	.151
Interactive radio tape	58	1.51	0.76	28.153	57	.721
Digital satellite	58	1.81	0.50	52.307	57	.431
Bulletin board	58	1.6	0.69	26.909	57	.733
Virtual learning environment	58	1.80	0.70	52.349	57	.180
Extended microphones	58	1.81	0.71	29.254	57	.062
Computer Simulation	58	3.55	0.67	42.170	57	.000
Wireless internet service	58	3.50	0.54	26.205	57	.000
Desktop computer	58	3.64	0.77	40.657	57	.000
Mobile/Smart phone	58	3.71	0.78	42.030	57	.000
Personal laptops computer	58	3.65	0.72	22.484	57	.000
Availability of zoom software technology	58	16.19	3.09	1.8781	57	.541

The table 3 above in summary showed that ($t=1.8781$, $p>.05$), this implies since $p(.541)$ is greater than $p(.000)$, this implies that the extent of availability of zoom software in teaching and learning Business Education in tertiary institutions in Plateau State is not significant. Hence, the null hypothesis is retained.

Hypothesis 2

There is no significant difference in the mean ratings on the extent of zoom software technology utilization in universities in tertiary institutions in Plateau State

Table 4: One sample t-test result on respondents mean rating of the extent of zoom software utilization on teaching and learning in tertiary institutions in Plateau State

Items	N	Mean	Std. Deviation	T=cal	Df	Sig
Interactive white board	58	1.52	0.71	31.038	57	.141
E-Learning application	58	1.73	0.63	22.406	57	.042
Video conference	58	1.49	0.74	22.576	57	.101
Interactive television	58	0.88	0.81	26.411	57	.152
Interactive radio tape	58	1.62	0.67	17.993	57	.621
Digital satellite	58	1.72	0.58	20.843	57	.551
Bulletin board	58	1.70	0.71	33.629	57	.711
Virtual learning environment	58	1.62	0.81	21.807	57	.132
Extended microphones	58	1.73	0.82	19.764	57	.675
Computer Simulation	58	3.55	0.76	22.576	57	.000
Wireless internet service	58	3.57	0.78	26.411	57	.000
Desktop computer	58	3.64	0.87	17.993	57	.000
Mobile/Smart phone	58	1.52	0.71	31.038	57	.000
Personal laptops computer	58	1.73	0.63	22.406	57	.000
Utilization of zoom technology	58	14.01	2.98	1.641	57	.762

The table 4 above in summary showed that ($t=1.641$, $p>.05$), this implies since $p(.762)$ is greater than $p(.000)$, this implies that the extent of utilization of zoom software in teaching and learning Business Education in tertiary institutions in Plateau State is significantly low. Hence, the null hypothesis is retained.

Discussion of Results

Zoom software available for teaching and learning in tertiary institutions in Plateau State

In research question 1, the findings show that; computer simulation, wireless internet service, desktop computers, mobile/smartphones and personal laptops computer were available for teaching and learning in tertiary institutions in Plateau State. However, interactive whiteboard, E-learning application, video conference, interactive television, interactive radio tape, digital satellite, bulletin board, virtual learning environment and extended microphones zoom technology were not available for the teaching and learning of Business Education curriculum content. On a general note, this implies that zoom software is not available for teaching and learning in tertiary institutions in Plateau State. The result is further presented in

the bar graph in Fig 1. This study is in line with Okiridu and Ogwunte, (2018) state that zoom facilities such as; systematic feedback system, computer-based operation network, video conferencing and audio conferencing, internet worldwide websites and computer-assisted instruction must be available for the successful utilization of zoom technologies in Nigeria tertiary institutions. In agreement with Gabadeen, Alabi and Akinnubi, (2015) pointed out that for zoom software to be successfully utilized; it must be available, accessible for utilization and in good condition at all times. They further enumerate zoom facilities as projectors, PCs, e-library, Google search, email, and WhatsApp. The availability of these zoom facilities could aid business education lecturers and students, with laptops to type and prepare power point and use a projector and prepare assignments. Atah (2019) confirm in his findings, to ensure the optimum teaching and learning under the best conditions in the 21st century, zoom facilities are expected to be adequately and sufficiently provided with the requisite instructional facilities and equipment in Nigerian universities.

Zoom software utilized in for teaching and learning in tertiary institutions in Plateau State

In research question 2, the findings shows that items 15 (interactive white board is lowly utilized) of zoom technology 16 (E-learning application is lowly utilized); item 17 (video conference is lowly utilized); item 18 (interactive television is lowly utilized); item 19 (interactive radio tape is lowly utilized); item 20 (digital satellite is lowly utilized); item 21 (bulletin board is lowly utilized); item 22 (virtual learning environment is lowly utilized); item 23 (extended microphones is lowly utilized) while the item 24 (computer simulation is Very Highly Utilized); item 25 (wireless internet service is Very Highly Utilized); item 26 (desktop computer is Very Highly Utilized); item 27 (mobile/smart phone is Very Highly Utilized) item 28 (personal laptops computer is Very Highly Utilized). On a general note, this implies that zoom technologies are not utilized for teaching and learning in universities in Cross River State. The result is further presented in the bar graph in Fig 2 below. The findings is line with Olelewe (2014) whose lamented that lecturers in Nigerian universities are not utilizing zoom technology in their instruction despite government and private efforts in the procurement of ICT facilities in universities in Nigeria. Oliver (2009) agreed that utilization of zoom technology in Nigeria universities is lowly utilized when compared to other developed countries. In agreement with Bamigboye and Bankole (2013) whose findings identified the following as the pre-requisite skills required for effective utilization of zoom technologies which including the ability to locate and run an application programme such as word processing skills, ability to search for files on computer system, ability to connect the computer and its peripherals, ability to access information on CD/DVD, ability to organize electronic files into folders, ability to print to various networked printers and so on.

Conclusion

Based on the findings of the study, it was concluded that zoom software for teaching and learning among Business education lecturers and students was shortly in supply in tertiary institutions in Plateau State. Also, it was concluded that zoom technology was lowly utilized for teaching and learning in tertiary institutions in Plateau State.

Recommendations

Based on the conclusion, it is recommended that

1. Tertiary institutions' management should liaise with all levels of government agencies to make Zoom software available in tertiary institutions to aid teaching and learning.
2. The authorities of tertiary institutions should create an awareness program on the importance of Zoom software among tertiary institution lecturers for the teaching and learning process.

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