Existing, Utilization and Preservation of E-Learning Facilities During Covid-19: Case Of Delta State Private Secondary Schools

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Abstract
This study examined existing, utilization and preservation of e-learning facilities during covid-19: case of Delta State private secondary schools. Ex-post facto design was adopted. The study population consists of 637 for which 127 was sampled using purposive sampling technique. Instrument titled E-learning Facility Questionnaire (ELQ) which was self-constructed was adopted in gathering information from participants on issue bothering on existing, utilization and preservation of e-learning facilities. The instrument was validated with face and content validity and also subjected to split-half reliability test and .79 coefficient was obtained. The data obtained was analysed using descriptive statistics (mean rating, standard deviation and ranking) and inferential statistics (t-test) at 2.50 benchmark for the research questions and .05 level of significance for hypotheses. Finding shows that e-learning facilities that exist in Delta State private secondary schools include; desktop computer, whiteboards, storage devices, projector, printer, scanner, laptop computer and broadband links. Also rate of e-learning facilities utilization in Delta State private secondary schools was high on desktop computer, scanner, whiteboards, broadband links, laptop computer, printer, projector and storage devices. The researcher recommended that needed e-learning facilities that will enhance teaching and learning should be made available in private school amongst others.
Keywords: E-Learning, Facilities, Education, Covid-19, Delta State.

I.   Introduction

The educational sector has been provided with the opportunities to advance their teaching and research with the recurrent development in information technology since they deliberately depend on speedy information to be proactive. Establishments make effort to deal with unruly technologies; enormous investment is made by these establishments in the state of the art ICT platforms in order to build competitive advantage amongst dwindling cost of technologies in the modern-day information systems (IS) market (Eze et al., 2013). ICT can be seen as an agent of socio-economic variations (Al-Gahtani, 2016) and a might for inventive destruction in human existence (Wang, 2009), particularly in the educational setting, where there is progression from providing simple teaching services to interactive learning surroundings. Rigorous programs that encourage the adoption of ICTs have been embarked on for online teaching and learning, effective communication and developing related skills required to make socio-economic contributions in the information world. Some e-learning facilities which provide private education sectors and students with more interest in achieving greater performance through the development of new human skills have been employed (Eze, Chinedu-Eze, Okike & Bello, 2020). There is also a rise in the number of e-learning platforms causing several papers and research materials (Franco and Garcia, 2018) for resolving students' educational requirements. E-learning has been through its challenges, despite the fact that it is an alternative to blended learning or conventional classroom teaching approaches (Johnson et al., 2008).

The resistance to the e-learning system implementation by most educational sectors is attributed to inadequate; infrastructures, management support, awareness, funding, abysmal management commitment to interactive knowledge environment (Prause, 2019) and training and manpower; limited resources and awareness, (Bhuasiri et al., 2012), inadequate internet facilities (Okundaye et al., 2019) and the steady decrease in the Nigerian education budget (Eze, et. al., 2020). However, e-learning has increased across diverse areas in Nigeria especially with the outbreak of the Covid-19. The Covid-19 (coronavirus disease 2019) pandemic in Nigeria is part of the global pandemic caused by severe acute respiratory syndrome coronavirus 2 (SAR COV-2) (Marra, 2003). The first spread to humans was in Wuhan, China (Hui, 2020). Subsequently, Covid-19 has mostly spread through person-to-person contact. The first outbreak of Covid-19 in Nigeria was conveyed by the Federal Ministry of Health (FMH) on 27th February, 2020 and from that time, the number of confirmed cases was on the rise in Nigeria and all over the world. Covid-19, when compare with the epidemics and plagues and

that have been threats to humanity throughout its existence is different, in the light that neither of them has prominently affected the education of everyone in the world like Covid-19 (Cucinotta and Vanelli, 2020).

On March 19th 2020, the Federal Ministry of Education, ordered the immediate closure of primary, secondary and tertiary institutions across the nation in order to contain the spread of the virus in the country. Restriction was also employed on inter-states movement, religious gatherings of 10 persons and above were banned, market places were locked, social activities were also placed on hold (Burke, 2020). Following the government directives, it was necessary for all public and private schools to close the doors of their schools. Covid-19 has revealed significant discriminations in the education sector. While some private schools with adequate facilities are adopting e-leaning for their students, a significant number of less privileged students in schools that lack these facilities mostly in rural areas were left out (UNESCO, 2020a). Most schools lacked adequate e-learning facilities which stopped them from adopting e-learning like other developed countries (UNESCO, 2020c). Thus, the aim of this paper is to investigate the existing, utilization and preservation of e-learning facilities during Covid-19: case of Delta state private secondary schools.

II.   Literature Review

Existing e-learning facilities in schools

The beginning of e-learning in Nigeria can be traced back to the introduction of telecommunication by the colonial masters in 1886 and this was a link from Lagos to the colonial office in London to send and received information (Ajadi et al., 2008). A lot of changes has been observed in the telecommunication sector since its emergence. There were changes in the telecommunication sector which led to improved access to the internet by Nigerians. The basic e-learning facilities are needed for schools to be IT-driven and they include telecommunication and multimedia system, computer system, (Ololube et al., 2006), whiteboards, projector, satellite, DVD, broadband links, and computers (Nwokolo et al., 2017), computer hardware which includes micro-processes, storage devices, microphones, speakers, headsets, printers, scanners, (Anowor, 2010) computer software which include Learning Management System (LMS), e-mail service as well as good internet access. However, in most private institutions, such facilities are not adequate and this largely affects teaching and learning. The most prevalent type of e-learning adopted by private schools in Nigeria was in the recording of lecture notes on CD-ROM and this can be replayed by the students at any desired time (Eze *et al.,* 2020). Some private institutions introduced intranet amenities. However, the major challenge associated with intranet was poor preservation due to constant electricity problem combined with the high cost of management and preserving the generating set.

Rate of e-learning facilities utilization in schools

In spite of the significance of e-learning implementation in Nigeria, some schools and higher institutions have underutilized or do not have the privilege to use these facilities at all. Literatures suggests that a significant number of private institutions in Nigeria have commenced the development of e-learning centres. According to Salawudeen (2006), these centres are mostly constructed as a web office which do not meet up or comprise of major facilities that makeup e-learning centres. Although academic sectors in Nigeria have displayed interest in the implementation of e-learning facilities in schools however, even when the facilities are available, it still remains a challenge for students to develop the capacity and acquire knowledge of using the facilities adequately (Eze et al., 2018). Also, students are faced with problems amidst their studies; restrictions of students from utilizing the e-learning, poor teaching techniques in students' educational programs (Ostund, 2005), lack of enthusiasm and expertise necessary for the implementation of e-learning and discontent witnessed during the development of e-learning facilities (Eze et al., 2018), poor vision and technique in implementing e-learning, (Oguzor, 2011).

Some private institutions have established the e-learning facilities despite the challenges facing e-learning in Nigeria institutions. When compared to the western world, the number is still very small and this is basically because of poor electricity supply, low bandwidth and the location of most institutions. Many private institutions are now setting up their ICT centres for internet services alone without actually taking into consideration other e-learning facilities (Ajadi et al., 2008) and this might improve the quality of teaching and learning in those institutions. Currently, private schools in Nigeria has almost out-numbered their public counter-parts and the rates at which these institutions implement contemporary e-learning facilities are remarkable (Eze *et al.,* 2020). This may suggest that private institutions in Nigeria may be IT-driven compared to public institutions. Private schools have better working agility and undertake decisions especially relating to e-learning implementation quicker than public because private schools are lesser in terms of capacity and are being funded by persons or group of persons who are usually the owners (Eze et al., 2018).

The above features however, can explain why private schools may be ahead of public schools in e-learning implementation. Private institutions in Nigeria are well funded and may be ahead in influencing e-learning. Therefore, students in the private institutions use e-learning much more that their public counter-parts

(Eze et al., 2018). In Nigeria, academic funding is a major challenge facing private and public schools in fully exploiting the benefit of e-learning, although private schools may be better situated in the use of e-learning. The students in private schools may be more enthusiastic to embrace and use e-learning facilities because of the prospects of the owners. There are however, numerous factors that may affect the implementation and utilization of e-learning in private schools. While most private schools are not capable to self-sponsorship the schools and most of the owners do not have the finance required to fund the school sustainably, the investment on ICT for academic purposes in public or private school is very low.

The training and retraining of staffs, funding of e-learning projects, the development and preservation of electrical reducing stations, development of software packages and provision of technological facilities are hard to achieve due to poor funding (Nwokolo et al., 2017). The study conducted by Ayeni (2010) on Ondo state secondary schools revealed that 54.2% of the schools have shortage of well-equipped e-learning facilities. In a similar study conducted by Ayeni and Ogunbameru (2013) on utilization of ICT facilities exposed low usage of the facilities in teaching and learning processes in Ondo State Secondary Schools. Thus, a lot of schools could not meet the e-learning facilities essential for effective teaching and learning. As a result, only few schools may perhaps attain quality assurance in utilization of e-learning facilities for teaching and learning.

Preservation of e-learning facilities in schools

The failure to preserve basic e-learning facilities has often been seen as one of Africa's greatest problems. "Roads are constructed and left to have a lot of potholes until they are practically inaccessible". This also happens to devices, infrastructures and cars purchased and maintenance culture is not applied. In schools, this situation seems to be prevalent especially with e-learning facilities. Schools are being commissioned and will be managed for several years without proper maintenance like replacing broken windows, desks, as well as repainting washed surfaces (Allan, 2009). Many schools will continue to take fees and admit new students and yet ignore the repairs and preservation of the school's facilities (Allan, 2009). A good number of schools have been beneficiaries of e-learning facilities like computers, printers, projectors, and other modern gadgets from government, western donors and corporate companies. Some schools now have connection to broadband internet and this enable them access the World Wide Web with ease. All these progresses point out a very hopeful future for education in general.

However, one problem that has been ignored is that of preservation. All the efforts in promoting e-learning may not productive if maintenance culture is not adopted for the facilities. In some schools, when a particular device develops fault, instead employing ways to fix it, the school management abandons it and or transfers it a store room only in a rare cases a specialist will be appointed to repair the fault. There are however ways that these e-learning facilities can be preserved. Managing the e-learning facilities is a challenge and it needs diligence from every user of the facilities. With huge financial support from government, the management ought to comply with the government's policy in managing and integrating ICT in education (Adu and Olatundun, 2013). The following are suggested strategies to help design a functional solution in managing school technology.

Statement of Problem

In some western countries, e-learning has continuously been implemented and aided in the formation of virtual institutions. In Nigeria only a few private institutions extensively adopted e-learning for academic activities before the Covid-19 outbreak. To some schools, adoption of e-learning is still a dream even during the period of Covid-19 lockdown, while few who adopted it during the Covid-19 find it difficult and challenge to use e-learning. This is can be due to lack of or poor e-learning facilities. Furthermore, most research in this jurisdiction has focused on tertiary institution or public schools. These studies centred on challenges and prospects of e-learning as well as issues concerning the availability of e-learning facilities in higher education institutions (Dubé et al., 2017). However, its impact on education in private schools in Nigeria during Covid-19 have been under-studied. Little is still known about the impact of e-learning facilities on education during Covid-19 in Delta State private schools. This is because traditional methods of teaching and assessments in these schools are frequently adopted while e-learning is yet to be fully implemented and used by students. Although some private schools tried to embrace e-learning totally by committing massive resources in obtaining these facilities, most have unsuccessful accomplished this task because of the rate of illiteracy and inadequate funding making its adoption and use rather low. Form the above, the researcher sees the need to examine existing, utilization and preservation of e-learning facilities during covid-19: case of Delta State private secondary schools.

Research Questions
To guide the study, the itemized research questions were posed
1.   What e-learning facilities exist in Delta State private secondary schools?
2.   What is the rate of e-learning facilities utilization in Delta State private secondary schools?

3.   How are the e-learning facilities preserved in Delta State private secondary schools?

Hypotheses
1.   Male and female respondents do not differ in their responses on existing e-learning facilities exist in Delta State private secondary schools.
2.   Male and female respondents do not differ in their responses on rate of e-learning facilities utilization Delta State private secondary schools.
3.   Male and female respondents do not differ in their responses on e-learning facilities preservation in Delta State private secondary schools.

III.   Methods

This study employed the ex-post facto design which help to explain the nature of the phenomena under investigation. The ex post facto entails that the investigation has occurred and will not be manipulated in the study. The study population consists of 637 private schools registered in Delta State. Using purposive sampling method, a sample of 127 that is 30% of the population was used for the study. Instrument titled E-learning Facility Questionnaire (ELQ) which was self-constructed was adopted in gathering information from participants on issue bothering on existing, utilization and preservation of e-learning facilities. The participants were meant to respond on four-point scale of Strongly Agree, Agree, Disagree and Strongly Disagree with rating of 4, 3, 2 and 1 respectively. The instrument was validated with face and content validity and also subjected to split-half reliability test and .79 coefficient was obtained. The data obtained was analysed using descriptive statistics (mean rating, standard deviation and ranking) and inferential statistics (t-test) at 2.50 benchmark for the research questions and .05 level of significance for hypotheses.

IV.   Results Presentation

Research Question 1: What e-learning facilities exist in Delta State private secondary schools?

Table 1: mean rating and SD analysis on e-learning facilities existing in private school

S/N	E-learning Facilities	Mean	SD	Rank	Remark
1.	Desktop computer	2.98	0.75	1st	Exist
2.	Whiteboards	2.90	0.50	2nd	Exist
3.	Storage devices	2.87	0.52	3rd	Exist
4.	Projector	2.79	0.70	4th	Exist
5.	Printer	2.71	0.68	5th	Exist
6.	Scanner	2.71	0.53	6th	Exist
7.	Laptop computer	2.63	0.53	7th	Exist
8.	Broadband links	2.56	0.64	8th	Exist
9.	Multimedia system	2.44	0.61	9th	Does not Exist
10.	Micro-processes	2.43	0.61	10th	Does not Exist
11.	Satellite	2.40	0.62	11th	Does not Exist
12.	Speakers	2.36	0.67	12th	Does not Exist
13.	Microphones	2.33	0.58	13th	Does not Exist
14.	Smart board	2.29	0.75	14th	Does not Exist
15.	Headsets	2.29	0.57	15th	Does not Exist
16.	E-library	2.10	0.70	16th	Does not Exist

Data in Table 2 shows that respondents agree on desktop computer, whiteboards, storage devices, projector, printer, scanner, laptop computer and broadband links with highest mean rating of 2.98, lowest mean rating of 2.56 and ranked 1st to 8th as e-learning facilities that exist. However, respondents disagree on multimedia system, micro-processes, satellite, speakers, microphones, smart board, headsets and e-library with highest mean rating of 2.44, lowest mean rating of 2.10 and ranked 9th to 16th as e-learning facilities that does not exist in Delta State private secondary schools.

Research Question 2: What is the rate of e-learning facilities utilization in Delta State private secondary schools?

Table 2: mean rating and SD analysis on rate of e-learning facilities utilization in private school

S/N	E-learning Facilities utilization	Mean	SD	Rank	Remark
1.	Desktop computer	2.89	0.55	1st	High Utilization
2.	Scanner	2.86	0.84	2nd	High Utilization
3.	Whiteboards	2.79	0.70	3rd	High Utilization
4.	Broadband links	2.73	0.78	4th	High Utilization
5.	Laptop computer	2.71	0.53	5th	High Utilization
6.	Printer	2.66	0.52	6th	High Utilization
7.	Projector	2.56	0.79	7th	High Utilization
8.	Storage devices	2.56	0.39	8th	High Utilization
9.	Multimedia system	2.49	0.93	9th	Low Utilization
10.	Speakers	2.47	0.87	10th	Low Utilization
11.	Micro-processes	2.45	0.86	11th	Low Utilization
12.	Headsets	2.37	0.74	12th	Low Utilization
13.	Microphone	2.29	0.82	13th	Low Utilization
14.	Smart board	2.26	0.64	14th	Low Utilization
15.	E-library	2.26	0.57	15th	Low Utilization
16.	Satellite	2.16	0.79	16th	Low Utilization

Data in Table 2 shows that respondents agree on desktop computer, scanner, whiteboards, broadband links, laptop computer, printer, projector and storage devices with highest mean rating of 2.89, lowest mean rating of 2.56 and ranked 1st to 8th as e-learning facilities with high utilization. Also, respondents disagree on multimedia system, speakers, micro-processes, headsets, microphone, smart board, e-library and satellite with highest mean rating of 2.49, lowest mean rating of 2.16 and ranked 9th to 16th as e-learning facilities with low utilization in Delta State private secondary schools.

Research Question 3: How are the e-learning facilities preserved in Delta State private secondary schools?

Table 3: mean rating and SD analysis on how e-learning facilities are preserved in private school

S/N	E-learning Facilities Preservation	Mean	SD	Rank	Remark
1.	Make the e-learning facility functional	3.38	0.85	1st	Agree
2.	Regular maintenance	3.35	0.84	2nd	Agree
3.	Source of power supply should be controlled	3.33	0.83	3rd	Agree
4.	Apply caution	3.29	0.82	4th	Agree
5.	Damaged facilities should be repair immediately	3.29	0.82	5th	Agree
6.	Remove hazardous factors that could cause damage	3.28	0.82	6th	Agree
7.	Ensure supervision during usage	3.26	0.81	7th	Agree
8.	Provide airy environment for the appliances	3.20	0.80	8th	Agree
9.	Educate teachers/students on facility maintenance culture	3.14	0.89	9th	Agree
10.	Employ technician to monitor the facilities	3.11	0.78	10th	Agree

Data in Table 3 shows that respondents agree on all items with highest mean rating of 3.38, lowest mean rating of 3.11 and ranked make the e-learning facility functional 1st, regular maintenance 2nd, source of power supply should be controlled 3rd, apply caution 4th, damaged facilities should be repair immediately 5th, remove hazardous factors that could cause damage 6th, ensure supervision during usage 7th, provide airy environment for the appliances 8th, educate teachers/students on facility maintenance culture 9th and employ technician to monitor the facilities 10th.

Hypothesis 1: Male and female respondents do not differ in their responses on existing e-learning facilities exist in Delta State private secondary schools.

Table 4: t-test on mean rating of male and female respondents in their responses on existing e-learning facilities

Variables	N	$\overline{x}$	SD	Df	t-Cal.	t-Crit.	Decision
Male Respondents	69	2.52	0.64				Not Significant
Female Respondents	58	2.53	0.59	125	1.81	±1.96	

*Level of Sign. =0.05

Data in Table 4 shows that t-calculated of 1.81 is less than t-critical of ±1.96 with Df of 125 at 0.05 level of significance. This implies that male and female respondents do not differ in their responses on existing e-learning facilities exist in Delta State private secondary schools.

Hypothesis 2: Male and female respondents do not differ in their responses on rate of e-learning facilities utilization Delta State private secondary schools.

Table 5: t-test on mean rating of male and female respondents in their responses on e-learning facilities utilization

Variables	N	$\overline{x}$	SD	Df	t-Cal.	t-Crit.	Decision
Male Respondents	69	2.51	0.74				Not Significant
Female Respondents	58	2.52	0.66	125	.94	±1.96	

*Level of Sign. =0.05

Data in Table 5 shows that t-calculated of .94 is less than t-critical of ±1.96 with Df of 125 at 0.05 level of significance. This implies that male and female respondents do not differ in their responses on rate of e-learning facilities utilization Delta State private secondary schools.

Hypothesis 3: Male and female respondents do not differ in their responses on e-learning facilities preservation in Delta State private secondary schools.

Table 6: t-test on mean rating of male and female respondents in their responses on e-learning facilities preservation

Variables	N	$\overline{x}$	SD	Df	t-Cal.	t-Crit.	Decision
Male Respondents	69	3.16	0.76				Not Significant
Female Respondents	58	3.10	0.89	125	1.21	±1.96	

*Level of Sign. =0.05

Data in Table 6 shows that t-calculated of 1.21 is less than t-critical of ±1.96 with Df of 125 at 0.05 level of significance. This implies that male and female respondents do not differ in their responses on e-learning facilities preservation in Delta State private secondary schools.

V.   Discussion of Results

Finding shows that e-learning facilities that exist in Delta State private secondary schools include; desktop computer, whiteboards, storage devices, projector, printer, scanner, laptop computer and broadband links. Hypothesis revealed that male and female respondents do not differ in their responses on existing e-learning facilities exist in Delta State private secondary schools. This finding agrees with Ololube et al., (2006); Anowor, (2010); Nwokolo et al., (2017) and Eze *et al., (*2020) who publicized that basic e-learning facilities needed for schools to be IT-driven and include; telecommunication and multimedia system, computer system, whiteboards, projector, satellite, DVD, broadband links, and computers. Computer hardware which includes micro-processes, storage devices, microphones, speakers, headsets, printers, scanners. Computer software which include Learning Management System (LMS), e-mail service as well as good internet access.

Finding shows that rate of e-learning facilities utilization in Delta State private secondary schools was high on desktop computer, scanner, whiteboards, broadband links, laptop computer, printer, projector and storage devices. Hypothesis revealed that male and female respondents do not differ in their responses on rate of e-learning facilities utilization Delta State private secondary schools. This finding is in agreement with Ostund, (2005) who observed that students are faced with problems amidst their studies; restrictions of students from utilizing the e-learning, poor teaching techniques in students' educational programs. Ayeni (2010) whose study revealed that 54.2% of the schools have shortage of well-equipped e-learning facilities. Ayeni and Ogunbameru (2013) exposed low usage of the facilities in teaching and learning processes. Eze et al., (2018) who disclosed that academic sectors in Nigeria have displayed interest in the implementation of e-learning facilities in schools however, even when the facilities are available, it still remains a challenge for students to develop the capacity and acquire knowledge of using the facilities adequately.

Finding shows that e-learning facilities can be preserved by make the e-learning facility functional, regular maintenance, source of power supply should be controlled, apply caution, damaged facilities should be repair immediately, remove hazardous factors that could cause damage, ensure supervision during usage, provide airy environment for the appliances, educate teachers/students on facility maintenance culture and employ technician to monitor the facilities. Hypothesis revealed that male and female respondents do not differ in their responses on e-learning facilities preservation in Delta State private secondary schools. This finding supports the suggestion of Eze, et. al., (2018) that government authorities and school management should brace issues of e-learning facility preservation through acquisition/installation of current e-learning facilities and vigorous involvement of e-learning in school curricula. Evoh, (2007); Nwana, (2009) recommended that centres for ICT should be developed and essential facilities like web-connectivity, computers, and constant electricity supply to enhance students' access to e-learning facilities in the institution are provided/upgraded regularly. Adu and Olatundun, (2013) who discovered that managing the e-learning facilities is a challenge and it needs diligence from every user of the facilities. With huge financial support from government, the management ought to comply with the government's policy in managing and integrating ICT in education.

VI.   Conclusion

At the peak of Covid-19 most school seek way to keep their students engaged with learning. But it seems that the schools were not ready for a new technological world which was experienced unannounced in the educational sector. Private schools which was believed to productivity as a result of the IT-driven facilities was discovered to not have been well prepared too. As such common e-learning facilities found in the school were desktop computer, whiteboards, storage devices, projector, printer, scanner, laptop computer and broadband links. The listed e-learning facilities might not be sufficient for teachers who needed to be present in school and teach students at home were they are other e-learning facilities to make teaching/learning more productive. Digital Learning System (DLS) was not created by most schools, thus, the schools resulted to use platforms such as zoom, Whatsapp, Youtube etc, resulting to low utilization of the needed facilities. For the existing e-learning facilities, it was discovered that they can be preserved through making the e-learning facility functional, regular maintenance, and damaged facilities should be repair immediately.

VII.   Recommendations

The following were recommended;

1.   Needed e-learning facilities that will enhance teaching and learning should be made available in private school.
2.   Teachers and students should be encouraged be the school management to effectively and judiciously utilized that facilities.
3.   Government should formulate a school e-learning policy that will improve learning, such that the educational sector will not wait to experience pandemic before seeking a solution to teaching and learning.
4.   ICT training should be organized for teachers and students from time to time on the usage and preservation of e-learning facilities.
5.   Proper preservation should be given to e-learning facilities such that there will be little or no damages to the facilities and this will increase the durability.

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