LEARNING: THE CHALLENGES FACING TERTIARY INSTITUTION STUDENTS IN DELTA STATE

BY

Haolat Folake ADEPOJU (Ph.D)

folakea24@gmail.com

Federal College of Education (Technical) Asaba. Delta State
Elizabeth Folasade OYEGBILE (Ph.D)

folasadeoyegbile047@gmail.com

Oyo State Agency for Adult and Non-Formal Education

ABSTRACT

The study explores the challenges students in tertiary institutions have been facing in Delta state since the unexpected introduction of online learning in Nigerian schools as a result of global lockdown due to Covid 19 pandemic. The descriptive method was adopted for the study. 486 respondents were drawn from four tertiary institutions purposively selected for the study. (84 lecturers and 402 students). The instrument used was a self administered, 25 item questionnaire on challenges facing both students and lecturers in an online situation. Data were analysed using percentages. The participants were mostly females, 78.1% lecturers and 87.2% students. 60.7% of the lectures had masters degree and above, while 64.6% of the students were NCE students and 35.4 were undergraduates. The study found that technology problems such as poor/ internet connections, lack of portable devices necessary for the process, high cost of data subscription were some of the challenges of online learning. Others included lack of digital competence, power supply interruption, intrusion from visitors or even family, lack of interest and inadequate preparation for online learning experience, particularly on the part of the students. The study recommended blended learning approach which is a combination of online learning and face to face learning to promote a smooth evolution from the traditional approach to a full online learning environment among others.

Keywords: *Online learning, technology, digital competence, blended learning, face to face approach.*

Introduction

oronavirus disease, otherwise referred to as 'Covid 19' is an infectious disease caused by a newly discovered virus which was first identified in Wuhan, China in December 2019. The virus that causes 'COVID19' is mainly transmitted through droplets generated by an infectious person through coughs, sneezes or exhales.

Worldwide data regarding people affected by COVID-19 are 134,308,070 confirmed

educational institutions changed to distance and web-based learning which is accepted to change the speed of the pandemic indirectly by limiting face-to-face classroom interactions. (Murphy 2020)

Review of Related Literature

Several studies that have addressed the challenges associated with the introduction of online learning abound in the literature. There are evidences that the introduction of electronic learning initiatives has proved unsuccessful because institutions and their constituents were not prepared for the experience (Aydin and Tasci 2015, Borotis and Poulymenakou 2004). Besides, people are used to the already existing pedagogies and practices making it hard for them to adjust to innovations and improve existing ones Watkins, Leigh and Triner (2004). Carr (2020) was of the opinion that student's perception about on-line learning has been negative due to past experiences resulting in high dropouts and low enthusiasm of learner. Other factors were found to be low student satisfaction associated with online learning experience (Kenny 2003). Nevertheless, other research suggests that students and instructors are satisfied with online learning just like traditional learning (Ali and Ahmad 2011). The increase in the number of students participating in distance education supports online learning as an alternative for traditional classroom teaching. Martin and Boliger (2018) found that introduction and working with online communication apparatus were the most vital engagement among learners while sending reminders and providing rubrics for assignments constituted the most important benefit in learner-instructor interactions. Similarly, Zaheer, Gondal, and Qadri (2015) identified that many students were satisfied with the education received online which further revealed that e-learning can support higher education in countries where higher education institutions are limited. Factors found to contribute to student satisfaction were embodied in the tutorials, student contribution, the type of instructor, mode of assessment, the content, learning environment, and the resources used Zaheer et al (2015). On the other hand, students perceived barriers to online learning have been acknowledged. Muilenburg and Berge (2015) asserted that organizational issues, academic skills, social interactions, technical skills, learner motivation, time and support for studies, cost, and access to the internet and technical problems were some of the challenges associated with online learning. Therefore, this study focused mainly on the challenges that students and lecturers are facing in online learning, how to cope with online learning in this COVID-19 era as well as the readiness of students to study online.

What is Online LearningQ

Online learning is defined as the use of internet and some other important technologies to develop materials for educational purposes, institutional deliver and management of programmes (Fry 2001). It is termed as a tool that can make the teaching learning process more student-centered, more innovative and even more flexible. Singh and Thurman (2019) defined it as learning experiences in synchronous or asynchronous environments using different devices, such as mobile phones, laptops and tablets with internet access. Given this circumstances, students can be anywhere and interact with their lecturers and other colleagues.

Online learning tools are playing a fundamental role during this pandemic, as it aims to help instructors, schools, and universities facilitate student learning during periods of educational institutions' closure. However, the students and lecturers both face problems when studying and teaching at home. In a developing country such as Nigeria, technology, digital competency, socio- economic challenges exist which might pose challenges to the process of online learning. Before the pandemic, online teaching/learning was not particularly a major form of education in schools and tertiary institutions, therefore most of the teachers have little or no experience in online teaching. Besides, more than half of Nigerian students' populations do not have access to the internet especially those residing in rural areas. Therefore, in the current circumstances running online classes in many parts, particularly rural areas in Nigeria is not practically applicable. The inequalities between the students who live in the urban area and those living in rural areas,

and also between the rich and poor who cannot afford to access the internet will increase the gap in educational activities using online learning during the pandemic.

Rationale of the study

In response to school closures, UNESCO recommended the use of distance learning programs and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. Carr (2020) According to UNESCO monitoring as of 7th July 2020, approximately 1,067,590,512 learners have been affected due to school closures in response to the pandemic. The United Nations had reported that 166 countries closed schools and universities to limit the spread of the coronavirus which affected about One and a half billion children and young people, representing 87 percent of the enrolled population. In Nigeria, to ensure continuity in educational pursuits, the Minister of Education issued a directive to all tertiary institutions to commence online teaching in their various institutions. As laudable as this was, there are a lot of factors that may inhibit its effectiveness. A large section of the population doesn't have access to the internet and electronic devices. And even people with access to the internet experience some infrastructural problems such as irregular power supply, slow internet connections and unaffordable data supply. Moreover, the practice of online learning is new to many tertiary institutions (lecturers and students)

particularly with no good access to electricity and internet services in most parts of the country. The study was therefore carried out to assess the challenges faced by lecturers and students in tertiary institutions in Delta state during online classes.

Objectives of Study

The study set out to achieve the following objectives:

- To examine the challenges facing the students during online classes
- To examine the challenges facing the lecturers while teaching through electronic media
- To determine the level of preparedness of students and lecturers for an online experience
- To offer recommendations for a successful adoption of online learning in the new normal world.

Research Questions

- What are the challenges facing students during online classes E
- What are the Challenges facing lecturers while teaching through electronic media.
- What is the level of preparedness of students and lecturers for an online experience.

Methodology

The study adopted the descriptive study design while the target population was tertiary institution students and lecturers in the state. Four tertiary institutions were purposively selected for the study. (three Colleges of Education and one University). The sample size was 486. Data were collected through self administered questionnaire and analysed using simple percentages.

Data Analysis

Among the 486 respondents, 84 were lecturers while the remaining 402 were students. Among the 84 lecturers, close to half (48.0%) of the respondents were of age group 30-39 year while 40 years and above constituted 52%. Furthermore, majority of the respondents were female (78.1%). 60.7% of the respondents had completed master degree. Likewise, more than half (54.9%) of the respondents were from the urban areas at the time of lockdown. And finally, 43.2% income per month was between #80,000.00- 350,000.00 Among 402 students, majority (58.5%) of the respondents were of age group 20-24 years. 87.2% of the respondents were female. Majority of the respondents (64.6%) were NCE students while the rest 35.4% were degree students. Likewise, about half of the respondents (49.8%) were from the urban centers at the time of Lockdown.

Research Question 1: What are the challenges facing students during online classes.

Table 1. Challenges of Respondents on Online learning. Students' response n=402

		RESPONSE			
S/N	QUESTIONNAIRE ITEMS	Yes	No	Occasionally	
		n%	n%	n%	
1	I have internet access for online classes at my home	198	112	92	
		(49.2%)	(27.9%)	(22.9%)	
2	I understand the course content provided by the	211	132	59	
	lecturer during online class	(52.5%)	(32.8%)	(14.7%)	
3	I feel bored during online class	209	151	42	
		(52%)	(37.6%)	(10.4%)	
4	I have the necessary gadgets available at my home	111	210	81	
	for online classes	(27.6%)	(52.2%)	(20.2%)	
5	I use computer laptops for my online class	92	206	104	
		(22.9%)	(51.2)	(25.9%)	
6	I use android/mobile phone for my online class	206	106	90	
		(51.2%)	(26.4%)	(22.4%)	
7	I get disturbed for online class due to internet	307	80	15	
	problem	(76.4%)	(19.9%)	(3.7%)	
8	I get disturbed for online class due to power supply	312	82	08	
	interruption	(77.7)	(20.4)	(1.9%)	
9	I cannot afford the cost of constant use of data pack	210	186	06	
	for my online class	(52.2%)	(46.3%)	(1.5%)	
10	I feel like I do not have my lecturer's full attention	190	120	92	
	in an online class	(47.2%)	(29.9%)	(22.9%)	

Table-1 reveals the challenges of respondents towards online learning whereby only 49.2% of the respondents had internet access for their online classes at their homes. 52.5% respondents claimed to have an understanding of the course content provided by lecturers. 52% complained of boredom during online classes. Only (27.6%) of the respondents have gadgets available in their homes for their daily online classes. More than half of the respondents made use of mobile phones for their online

classes 51.2% while 22.9% used computer laptops. A greater percentage of the respondents, 76.4% asserted that they got disturbed for their online class because of internet problem, while 77.7% got disturbed because of power supply interruption. Moreover, more than half of the respondents (52.2%) claimed they could not afford constant use of data pack for their online class. Likewise, 47.2% of the respondents felt like they were not able to get their lecturers full attention during online classes.

Table 2. Challenges of Respondents on Online learning. Student's response n=402

		RESPONSE			
S/N	QUESTIONNAIRE ITEMS	Yes	No	Occasionally	
		n%	n%	n%	
1	I am not interested in joining online class	137	256	09	
		(34.1%)	(63.7%)	(2.2%)	
2	I seek clarification on difficult areas during online	195	96	111	
	question and answer time	(48.5%)	(23.9%)	(27.6%)	
3	I am able to have good communication with my	155	201	46	
	lecturer during online class	(38.6%)	(50.0%)	(11.4%)	
4	I am able to get alternative lecture notes from my	224	133	45	
	lecturer when I am unable to join the class	(55.7%)	(33.1%)	(11.2%)	
5	I get regular assignments from my lecturer after	208	148	46	
	online class	(51.8%)	(36.8%)	(11.4%)	
6	I do not have problem in doing my assignment after	205	153	44	
	online class	(50.9%)	(38.1%)	(11.2%)	
7	I feel happy with my lecturer's feedback for my	205	157	40	
	assignment	(50.9%)	(39.1%)	(10%)	
8	Poor internet facility is always a cause for anxiety	307	80	15	
		(76.4%)	(19.9%)	(3.7%)	
9	Interruption in electricity supply is always a cause	312	82	08	
	for anxiety	(77.7%)	(20.4%)	(1.9%)	
10	Intrusion from family members and visitors is a	278	109	15	
	cause for anxiety	(69.2%)	(27.1%)	(3.7%)	

Table 2 further shows the challenges facing the students during online classes. 34.1% indicated lack of interest in joining online classes, while 48.5% claimed to seek clarification on difficult areas in their course during online question and answer time. 38.6% of the respondents claimed to have good communication with their lecturers.

More than half of the respondents claimed they were able to get alternative lecture notes from their lecturers when they were not able to join online classes and on assignment and feedback from lecturers, 51.8% and 50.9% respectively responded affirmatively. Finally, intrusion from members of family and visitors were major causes of anxiety during online classes as majority of the respondents 69.2% responded positively.

Research Question 2: What are the Challenges facing lecturers while teaching through electronic media.

Table 3. Challenges of Respondents on Online learning. Lecturers' response n=84

S/N	QUESTIONNAIRE ITEMS	RESPONSE			
		Yes n%	No n%	Occasionally	
				n%	
1	I have internet access for online classes jn my home	60	10	14	
		(71.4%)	(11.9%)	(16.7%)	
2	I have full knowledge regarding the use of media	62	18	04	
	for my online classes	(73.8%)	(21.4%)	(4.8%)	
3	I use internet data pack for online class	23	41	20	
		(27.4%)	(48.8%)	(23.8%)	
4	I have the necessary gadgets available at my home	65	05	14	
	for online classes	(77.4%)	(5.9%)	(16.7%)	
5	I use computer laptops for my online teaching	58	11	15	
		(69.0%)	(13.1%)	(17.9%)	
6	I use android/mobile phone for my online class	27	38	19	
		(32.1%)	(45.3%)	(22.6%)	
7	I get disturbed for online class due to internet	41	12	31	
	problem	(48.8%)	(14.3%)	(36.9%)	
8	I get disturbed for online class due to power supply	35	26	23	
	interruption	(41.7%)	(30.9%)	(27.4%)	
9	I cannot afford the cost of data pack for my online	42	20	22	
	teaching	(50.0%)	(23.8%)	(26.2%)	
10	I get disturbed during online class due to students	56	08	20	
	joining and others leaving the platform	(66.7%)	(9.5%)	(23.8%)	

Table 3 shows the challenges of respondents (lecturers) regarding online learning whereby 11.9 % did not have full access to internet while 16.7% have internet occasionally for their online classes. Almost half of the respondents 48.8% got disturbed during online classes due to internet problem. In the same vein, 41.7% got disturbed because of interruption in power supply. 27.4% of the respondents used data

pack daily while 23.8% only used it occasionally for their online classes. 21.4% did not have full knowledge of with regards to media use of online teaching. Likewise 77.4% had electronic gadgets available for their online learning in their various homes. 69% use computer laptops for their online classes while only 32.1% made use of mobile phones. Majority claimed to get disturbed in the course of their online teaching when students came to join or leave in between their classes.

Table 4. Challenges of Respondents on Online learning. Lecturers' response n=84

		RESPONSE			
S/N	QUESTIONNAIRE ITEMS	Yes n%	No n%	Occasionally	
				n%	
1	I take attendance regularly with 100 % students	62	18	04	
	involvement in my online class	(73.8%)	(21.4%)	(4.8%)	
2	I am able to get response from students when I ask	14	42	28	
	questions during online class	(16.7%)	(50%)	(33.3%)	
3	I am abl e to have good communication with	50	21	13	
	students during online class	(59.5%)	(25%)	(15.5%)	
4	I am able to provide alternative notes to students	65	03	16	
	when they have problem in joining the class	(77.4%)	(3.6%)	(19.0%)	
5	I am able to achieve daily objectives regarding the	41	15	28	
	course through online teaching	(48.8%)	(17.9%)	(33.3%)	
6	I am able to satisfy my students questions regarding	26	43	15	
	the course during online class	(31%)	(51.2%)	(17.8%)	
7	I give regular assignments to my student s after	51	07	26	
	online class	(60.7%)	(8.3%)	(39%)	
8	Poor internet facility is always a cause for anxiety	30	26	28	
		(35.7%)	(39%)	(33.3%)	
9	Interruption in electricity supply is always a cause	52	11	21	
	for anxiety	(61.9%)	(13.1%)	(25%)	
10	Inability to clear students questions regarding the	47	14	23	
	course during online class is a cause for anxiety	(56%)	(16.7%)	(27.3%)	

Table 4 above further reveals the challenges of the respondents (lecturers) during online classes. Majority of the respondents, 50% claimed they were not able to get response from students during online classes while 33.3% claimed they occasionally got responses from them. Besides, as regards attainment of daily objectives, below average 48.8% responded positively, while on anxiety for internet connection, 35.7%

responded positively. Majority of the respondents responded in the affirmative with regards to the issues of electricity supply and anxiety about inability to clear students' questions regarding the course during online classes, 61.9% and 56% respectively.

Research Question 3: What is the level of preparedness of students and lecturers for online learning E

Table 5. Preparedness of Respondents on Online learning. Students' response n=402

S/N	QUESTIONNAIRE ITEMS	RESPONSE			
		Yes	No	Occasionally	
		n%	n%	n%	
1	I have internet access for online classes at my	198	112	92	
	home	(49.2%)	(27.9%)	(22.9%)	
2	I have the necessary gadgets available at my	111	210	81	
	home for online classes	(27.6%)	(52.2%)	(20.2%)	
3	I feel bored during online classes	256	137	09	
		(63.7%)	(34.1%)	(2.2%)	
4	I use android/mobile phone for my online class	206	106	90	
		(51.2%)	(26.4%)	(22.4%)	
5	I use computer laptops for my online class	92	206	104	
		(22.9%)	(51.2%)	(25.9%)	

Table 5 shows the level of preparedness of students for online learning. 49.2% claimed to have internet access in their homes while 27.9% claimed otherwise. More than half of the respondents, 52.2%, did not have the

necessary gadgets available for online classes in their homes while majority, 51.2% used mobile phones for online classes. 63.7% respondents complained of boredom during online classes.

Table 6 . Preparedness of Respondents on Online $\mbox{learning. Lecturer s' response}$ $\mbox{n=84}$

		RESPONSE			
S/N	QUESTIONNAIRE ITEMS	Yes n%	No n%	Occasionally	
				n%	
1	I have internet access for online classes at my	60	10	14	
	home	(71.4%)	(11.9%)	(16.7%)	
2	I have the necessary gadgets available at my	65	05	14	
	home for online classes	(77.4%)	(5.8%)	(16.7%)	
3	I feel happy to be updated with digital technology	63	15	06	
	and its use for online learning	(75%)	(17.9%)	(7.1%)	
4	I use android/mobile phone for my online class	27	38	19	
		(32.1%)	(45.3%)	(22.6%)	
5	I use computer laptops for my online class	58	11	15	
		(69.0%)	(13.1%)	(17.9%)	

Table 6 above shows that majority of the respondents, have internet access and available gadgets in their homes for online classes as 71.4% and 77.4% respectively responded positively.. 75% of the respondents also expressed joy for being updated with digital technology and its use for online learning. Finally, 69.0% made use of computer laptops for their online teaching while only 32.1% made use of their mobile phones.

Discussion of Results

The study explores the challenges students and lecturers in tertiary institutions have been facing in online learning in this Covid'19 era. The study revealed that the major challenge students are facing in an online learning experience is the problem of technology. This connotes internet connectivity and non availability of

electronic gadgets needed for online learning. Some of the students did not have access to portable devices that can steer the internet. Majority of them relied on their mobile phones which may not be wellmatched for certain online situation. This finding is in line with Aboagyie, Yawson and Appiah (2020), Ahmed and Nwagwu who found out that accessibility issues in terms of poor internet connections, use of smart phones and telecommunications were the key challenges facing students in online situation in developing countries. The finding on technology also agreed with Almaiah (2020) who found out that technological factors were very crucial for online learning usage.

Closely related to this, the study found out that majority of the students could not afford daily data pack usage. With the covid 19 pandemic and consequent increase in the level of poverty, students with low socio economic background could not key in to the online process. This finding corroborates the finding of Adedoyin and Soykan (2020) when they posited that students with low socio economic power to afford data connections are most vulnerable and are likely to fall behind or encounter additional challenges to meet up with others in online learning. The study also found out that the problem of electricity is another big challenge to online learning. Both lecturers and students agreed that they got disturbed most of the time by interruption in power supply. This is a socio issue that is common in developing countries, Nigeria inclusive. The constant interruption of power supply could be frustrating and hinder the smooth process of online learning. Again, the study further revealed that students were not prepared for a complete online experience in this pandemic era. Some of the students complained of boredom (63.7%) and obviously did not even have the necessary equipments for effective online learning. In as much as the readiness on the part of lecturers is high as revealed in the study, unwillingness and lack of interest on the part of the students (34.1%) to adopt the new approach to learning can hinder the execution of the entire process. The finding also agreed with Carr (2020) who was of the view that student perception about on-line learning has been negative due to past experiences resulting in high dropouts and low motivation of learner.

Another important finding of the study is lack of digital competence particularly on the part of the students. The

study revealed that lecturers have full knowledge regarding the use of media for online teaching (73.8%) the contrary is the case with the students. Majority of them could not respond to questions during online classes as revealed in the study with only 16.7% positive response, maintaining good communication during online classes was 38.6%. In view of this, daily objectives of online teaching could barely be achieved as revealed in the study (48.8%). The finding is in line with Ferrari (2012) and Omotayo and Haliru (2020) when they established digital competency as a variable with positive correlation and substantial effects on the application of digital literacy by higher education learners. Finally, the study found out that unexpected appearance or interruption from family members and visitors usually resulted in disruption or diversion of students' attention during the process of online teaching and learning (69.2%).

Conclusion

It is obvious that online learning has played a key role in cushioning the impacts of Covid 19 pandemic on education and learning activities by serving as a viable platform for design, delivery and assessment of platforms. Online learning is a tool that can make the teaching learning process more student-centered, more flexible and even more innovative

In view of the circumstances that heralded the sudden introduction of online learning into the nation's educational activities, the challenges highlighted above are expected. Moreso, the students are used to the conventional face to face traditional method of teaching. A pragmatic approach would have been to introduce students to online learning before the pandemic period which would have prepared the students for online learning experience. So, whether the online learning will be effective in the new normal world depends on handling and management of the challenges.

Recommendations

The following recommendations are offered:

- There is the need to assist the students in recognizing the values of blended learning and encourage the integration of online discussion and traditional face to face learning. This will ensure a smooth transition from the traditional approach to complete online learning process.
- Since online learning is technological-driven, and rely on internet facilities, institutions should collaborate with telecommunication industries to subsidize or reduce the

- cost of internet subscription as part of their corporate social responsibilities.
- Internet operators should also ensure that internet connectivity is strong. Technical problems such as poor internet, disruption in power supply and other associated issues can be solved through pre-recorded videos, testing the content and having an alternative plan ready.
- Online programmes should be designed in ways that are creative, relevant, interactive, interesting, dynamic and student-centered.
- Efforts should be made to harmonise the learning process
- Personal attention should be provided to the students so that they can adapt easily to the new learning situation.
- Intrusion from family members and visitors can be curtailed by setting up a separate online library where such intrusions can be controlled.
- The government and nongovernmental organisations should assist students to get laptops and tablets.

References

- Aboagye, E., Yawson, J.A., & Appiah, K.N. (2020) The Challenges of Students in

 Tertiary Institutions.

 https://www.researchgate.net/publication-342591007. Retrieved on 16/09/2020
- Adedoyin, O.B & Soykan E (2020) Covid 19
 Pandemic and Online Learning. The
 Challenges and opportunities.
 Https://doi.org/1080/10494820181318
 0.Retrieved on 16/09/2020
- Ahmed A, & Nwagwu W.E. (2006) Challenges and opportunities of elearning networks in Africa. Development. 49(2): 86-92.
- Ali, A & Ahmad, I. (2011). Key Factors for determining student satisfaction in distance
- learning courses: A study of Allama Iqbal open university. Contemporary Educational Technology. 2(2): 118-34.
- Almaiah M.A, Al-Khasawneh A, & (2020) Althunibat A. Exploring the critical challenges and factors influencing the E- learning system usage during COVID-19 pandemic. Educ Inf Technol:1–20. doi:10.1007/s10639-020-10219-y.
- Aydın, C.H & Tasci D. (2005) Measuring readiness for e-learning: Reflections from an emerging country. Journal of Educational Technology & Society 8(4): 244-57.
- Borotis S, & Poulymenakou A. (2004) Elearning readiness components: Key issues to consider before adopting elearning interventions. In: Association

for the

- Advancement of Computing in Education (AACE). In E-Learning: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education. p.1622-1629.
- Carr S. (2020) As distance education comes of age, the challenge is keeping the students. Chronicle of higher education. 46 (23).
- Dhawan, S. 2020. Online learning, a panacea in the time of Covid 19 Crisis. Journals.sagepub.com/doi/full/10.117 7/0047239520934018. Retrieved on 23/09/2020
- Ferrari, A (2020) Digital competence in practice: An analysis of framework. Google Scholar
- Fry, K. (2001) E-learning markets and providers: Some issues and prospects. Education and training. 43(4/5) 233-2 3 9 . https://doi.org/10.1108/EUM000000 005484. Google scholar
- Huang, C., Wang, Y., Li, X., Ren, L., Zhou, J., Hu, Y., Zhong, L., Fan, G., Xu, J., Gu, X., & Cheng, Z. (2020) Clinical Features of of Patients infected with 2019 novel coronavirus in Wuhan, China. The lancet 3 9 5 (1 0 2 2 3) 4 9 7 5 0 6 https://doi.org/101016/50140-6736(20) 30183-5 Pubmed. Webof science. Google scholar
- Kenny J.D. (2003) Student perception of the use of online learning technology in their courses. UltiBase Online Journal. Retrieved on 16/09/2020 Li, Q., Guan, X., Wu, P., Wang, X., Zhou,L.,

- Tong, Y., Ren, R., Leung, K.D., Lau, E.H., Wong, J.Y., & Xing, X. (2020) Early transmissions dynamics in Wuhan, China of Coronavirus infected Pneumonia. New England Journal of medicine.382, 1199-1207. https://doi.org/10.1056/NEJMoo2001316. Pubmed. Web of Science. Google scholar
- Maltby, J.R, & Whittle J. (2000) Learning programming online: Student perceptions and performance. In Proceedings of the ASCILITE 2000 Conference.
- Martin F, & Bolliger D.U (2018) Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. Online Learning. 22(1): 205-22.
- Muilenburg, L.Y, & Berge Z.L. (2005) Student barriers to online learning: A factor analytic study. Distance education. 2005; 26(1): 29-48.
- Murphy M.P.A. (2020) Contemporary Security Policy COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post- pandemic p e d a g o g y . 2 0 2 0 . doi:10.1080/13523260.2020.176174 9.
- Omotayo, F.O. & Haliru, A. (2020) Perception of task-technology fit of digital library among undergraduates in selected universities in Nigeria

- .The Journal of academic librarianship, 46(1) 102097. https://doi.org/10/Jacalib.2019.102097. Web of Science. Google scholar
- Singh, V. & Thurman, A. (2018) How many ways can we define online learning EA systematic literature review of definitions of online learning 1988-2018. American Journal of Distance Education 33(4) 289-306. Google scholar retrieved on 23/09/2020
- UNESCO. School closures caused by Coronavirus (Covid-19). https://en.unesco.org/covid19/educat ionre sponse. Accessed 14/09/2020.
- Watkins R, Leigh D, & Triner D. (2004)
 Assessing readiness for e-learning.
 Performance Improvement Quarterly.
 17(4): 66-79.
- World Health Organisation. Coronavirus.

 A v a i l a b l e f r o m:

 https://www.who.int/health

 -topics/coronavirus#tab=tab-1.

 [Accessed September, 2020].
- World Health Organisation (2020) Coronavirus Disease (covid19) Pandemichttps://www.who.int/emerg encies/diseases/novel-coronavirus-2019. Retrieved on 20/9/2020
- Zaheer M, Babar M.E, Gondal U.H, Qadri M.M. (2015) E-learning and student satisfaction. In Proceedings of the 29th Annual Conference of the Asian Association of Open Universities: New frontiers in ODL. 2015. p.275-285.