An Investigative Study of Students' Readiness for Digital Classroom Learning in Post Covid-19 Pandemic in Air Force Institute of Technology (AFIT) Kaduna, Nigeria

1. Abubakar Mallam Aliyu, 2.Abdullahi Ismaila Abubakar, 3.Ogor Stephen Icha

Air Force Institute of Technology (AFIT) Kaduna, Nigeria
Sokoto State University, Department of Curriculum Studies
Air Force Institute of Technology (AFIT) Kaduna, Nigeria

ABSTRACT
The study attempts to "Investigates Students' Readiness for Digital Classroom Learning in Air Force Institute of Technology Kaduna, Nigeria. The study adopted the descriptive survey research design. One hundred and seventy five (175) undergraduate students were randomly selected and served as a sample size. A structured questionnaire titled Digital Classroom Readiness questionnaire (DCRQ) was constructed. It is in-line with modified likert scale and was used for data collection. The questionnaire was divided in to two parts, part one was made purposely to assess the demographic data of the respondents while part two consist of thirty questions and was also sub-divided in to four parts in which each sub-part has ten questions. The instrument was tested and validated using Cronbach's Alpha correlation co-efficient test and yielded a reliability co-efficient of 0.79 which indicated the validity and reliability of the instrument. The instrument was administered using Google Form. A total respond of one hundred and seventy five (175) were collected from undergraduate students at different level. The collected data was extracted, cleared and transferred to Statistical Package for Social Sciences (SPSS) version 2.0 for proper analysis. Descriptive statistics was used in analyzing respondent's demographic data while mean and standard deviation were used to answer the research questions. The findings of the study shows that, students are ready for digital classroom learning; It also reveals that, students' have basic ICTs skills needed for digital classroom learning; Furthermore, the study highlighted that, learners face some challenges while engaged in digital classroom learning. The researcher recommend that, the school should encourage students' to improve in their ICT skills; Relevant ICTs infrastructure/equipment should be provided to the school and seminar, short courses and workshops should be organize to train lecturers/instructors on digital classroom learning.

I. INTRODUCTION
The penetration of information and communication technology (ICT) in to educational environment revolutionized the whole system; from mere knowledge delivered by the teachers where the teacher become monarchy and the learners are just receiving prepared and coded knowledge from the master; to an opened environment where learners are allowed to go through the body of knowledge and discover things by themselves under the guidance of the teacher or instructor. Technology also goes in to the system of education and expand boundary of the classroom from traditional to new way of

innovative technology learning and eliminate the geographical barrier. However, many Nigerian tertiary institutions maintain the old and traditional methods of teaching and learning Inspire of the modern ways even with the world health challenge of COVID 19 variants.

The Air Force Institute of Technology (AFIT), is a hybrid institution with both military and civilian students' undergoing different accredited courses of studies; ranging from military upgrading courses, basic studies, certificate courses, IJMB, National diploma, pre-degree, degree and post-graduate studies. In 2020/2021, most governments around the world closed down educational institutes from primary to tertiary in an attempt to curtail the spread of COVID 19. According to UNESCO, schools and higher education institutes were closed in 185 countries and 89.4% of total learners were affected (Kumari & Jaya 2020). The crisis generate long term effects on the educational system such as disruption of student cognitive learning process, loss of motivation, increased dropout rates, inflated unemployment rates, delay in student graduation and tendencies of postponing academic sessions (Olayami, Adamu & Olayami, 2021).

Digital learning/online learning has become an option to continue with the normal academic activities in our tertiary institutions across the globe without being in panic. The three important reasons to consider in digital learning are: access to learning content, high degree of understanding the learning content, evolving solutions to learning problems and reduce physical contact between learners (Kust 2015).

The incorporation of technology in to the classroom brings about changes in the educational system which can only happen over time and requires sacrifice from government, educational planners, teachers, parents and students. The combination of internet and multimedia makes it possible to adjust many distance learning and is quickly spreading to many campuses (Vahideh. & Mohammad. 2010): the attainment of this goal entails are form in the methods of instruction delivery and ways learners learned.

According to Avishkar (2013), digital classroom is basically an ICT based setup and converting of traditional classroom in to interactive sessions with the help of best selected hardware, soft wares and syllabus compliance multimedia. This modification includes: setting up infrastructure and technology in schools, providing digitized course content and maintenance support to teachers. In a digital classroom, set of computers are installed and connected to network with classroom respond system (CRSs). The must simplest way of putting CRSs is to utilize student's mobile devices and also develop the most appropriate techniques to successfully integrate the devices in to the pedagogy developed for using CRSs. Before setting a digitized classroom, the following should be consider: use of projector, use of mobile devices/computers, using multimedia, using less paper, use of digital resources and digital tools, development of digital ethics and honor online rules, respect for fair   use for education, teacher created resources, problem based learning and digital literacy (Avishkar, 2013).

Digital classroom has taken a leading role in the teaching and learning process. Generally, it is a learning environment located within a computer mediated communication system and consists of a set of group communication, work spaces and facilities that are constructed in software (Effiong, Ekpo and Udoh. 2016). The exponential growth in the internet has opened new door for higher education to remove barrier, increase and diversified audience and allows universities to establish fresh markets in geographically distant areas by expanding the boundary of their classroom and delimiting face to face learning (Effiong, Ekpo and Udoh.   2016). Williams and Augustine (2015) emphasized the importance of student-student interaction in learning process and suggested that virtual classrooms provide that context .Virtual classroom can be considered as a key place to explore learning through human interactions (Laila. 2019).

Libron (2019), says that, higher educational institutions are aware that using technology systems in classroom can make, cultivate, convey, and encourage learning, and upgrade students' understanding and knowledge.

Students can bring a laptop to class and work on the same document with the instructor. With real-time audio or video chat and screen-sharing, students can emulate being in real life practice where they are unlikely to be in the same room with other (Jacqueline. 2019).

Thomas and Muhammad (2020), says that, students acquire a number of digital skills from a paper less classroom and these skills will eventually help them to develop real-life skills such as self-learning and collaboration learners. Furthermore, such learning activity will become a real training ground for students to prepare themselves for their future life and career.

Objectives of the Study

The main objective of the study is to investigate students' readiness for digital classroom learning at the Air force Institute of Technology, Kaduna, Nigeria with the following specific objectives-:

To investigate students' readiness for digital classroom learning in post COVID-19 pandemic in AFIT Kaduna.

To find out student's ICT skills for effective digital classroom learning in post COVID-19 pandemic in AFIT Kaduna.

To assess the possible challenges faced by students' while engaging in digital classroom learning in post COVID-19 pandemic in AFIT Kaduna.

Research Questions

Are AFIT students ready for digital classroom learning in post COVID-19 pandemic?

Does AFIT students have adequate ICT skills for effective digital classroom learning in post COVID-19 pandemic?

What are the possible challenges to be faced by AFIT students' while engaging in digital classroom learning in post COVID-19 pandemic?

II.   METHODOLOGY

The research design was descriptive survey. The target population for the study was pre-degree students of Air Force Institute of Technology, Kaduna; therefore, the total population of the pre-degree students was 6017 as at 2020/2021 academic session; therefore, 175 undergraduate students were randomly selected to serve as a sample size in conformity with Bukhari sample size calculator 2020. A structured questionnaire titled digital classroom readiness was constructed, after an extensive consultation of related literature. The questionnaire is in-line with modified Likert scale and was used for data collection. The questionnaire was divided in to two parts, part one focused on the demographic data of the respondents while part two was also sub-divided in to four parts in which the questions assess the respondents 'readiness for digital classroom learning. The instrument was tested and validated using Cronbach's Alpha co-efficient test and yielded a reliability co-efficient of 0.79, which indicates the validity and reliability of the instrument. The instrument was administered using Google Form. A total of one hundred and seventy five (175) forms were collected from pre-degree students at different levels. The collected data was extracted, cleared and transferred to Statistical Package for Social Sciences (SPSS) version 22 for proper analysis. Descriptive statistics were used in analyzing respondent's demographic data while mean and standard deviation were used to answer the research questions.

III.   RESULT

Table 1 Mean and Standard Deviation of Students' Readiness for Digital Classroom Learning

S/N	ITEMS	Mean	SD	Decision
1	I have a computer, iPhone, tablet or smartphone that I use to access internet at any time I want.	2.55	0.90	Agree
2	I have basic knowledge needed for computer or smartphone operation.	2.77	1.13	Agree
3	I have basic knowledge in web browsing.	2.50	1.20	Agree

S/N	ITEMS	Mean	SD	Decision
4	I have access to reliable internet connection at school and at home to access internet at any time.	2.40	0.99	Disagree
5	I can work online independently with little or no supervision.	2.69	1.02	Agree
6	I can buy data to browse internet in the absence of school free internet connection.	2.48	1.14	Disagree
7	I will not be distracted by ads, friends or any form of online distractive materials while studying online.	2.65	1.26	Agree
8	I can ask question, comment and make suggestion that are related to my study topic while studying online.	2.51	1.20	Agree
9	I can swim through the internet and surf videos related to my study.	2.63	1.26	Agree
10	I can also buy an important document online using any form of online money transfer.	2.42	0.89	Disagree
CumulativeMean2.56				

Decision Mean=2.50
Source:- Online Survey (2022)

Table 1 highlighted students' readiness for digital classroom learning. From the table, it was clearly indicated that, students possess either smartphone, PC, tablets or iPhone which is an essential hard ware needed for digital classroom learning implementation. The result of the table shows that, students are ready for digital classroom learning since the cumulative mean of 2.56 is greater than the decision mean of 2.50.

Table 2. Mean and Standard Deviation Students' ICT Skills Needed for Digital Classroom Learning

S/N	ITEMS	MEAN	SD	Decision
1	I can type and edit document using computer, iPhone or smartphone.	2.59	0.99	Agree
2	I can use power point and keynote to make power point for educational presentation.	2.68	1.05	Agree
3	I can surf or download educational videos using computer or smartphone.	2.74	1.04	Agree
4	I can send and receive messages such as email, whatsapp message or other forms of online communication platforms without difficulties.	2.50	1.13	Agree
5	I can make online presentation using Zoom or Google meet.	2.42	1.05	Disagree
6	I can solve simple internet connection problems that are related to digital learning.	2.45	0.97	Disagree

S/N	ITEMS	MEAN	SD	Decision
7	I can collaborate with colleagues and lecturer/instructor during online lesson without difficulties.	2.03	0.92	Disagree
8	I can make screen recording for academic purposes.	3.14	1.08	Agree
9	I have basic online communication skills to communicate effectively using online platform.	2.51	1.02	Agree
10	I can make simple analysis using Microsoft excel	2.42	0.89	Disagree
CumulativeMean2.55				

Decision Mean = 2.50Source:- Online Survey(2022)

Table 2 shows students' ICT skills needed for digital classroom learning. Based on the table, students' communicates using various online platforms with some difficulties to collaborate with colleagues and lecturers/instructors during online lessons. The table also indicated that, they cannot make online presentation using zoom or Google Meet and they also face difficulties in solving simple internet problems that are related to digital learning. However, the result from the table shows that, students' have basic ICT skills needed for digital classroom learning with consideration to cumulative mean of 2.55 which is greater than the decision mean of 2.50.

Table 3 Mean and Standard Deviation of the Challenges Face by Students' When Engage in Digital Classroom Learning

S/NO	ITEMS	MEAN	SD	Decision
1	Unreliable internet connectivity may affect digital classroom learning.	2.59	1.16	Agree
2	Interrupted power supply may hinder effective digital classroom learning.	2.00	0.99	Disagree
3	Inadequate or lack of online technical staff to guide the students' in area of difficulties affects my digital learning.	2.39	0.80	Disagree
4	Some online learning content are difficult to access due to technological complexity.	3.34	0.63	Agree
5	Long time looking at computer/phone screen is boring.	2.61	1.07	Agree
6	High cost of internet connectivity affects digital classroom learning whenever the free one is not available.	2.03	1.02	Disagree
7	Low processing capacity of students' computer/smartphone affects digital learning.	3.14	0.80	Agree
8	Shortage of computer in the school when compared to the number of students'.	1.81	1.02	Disagree

S/NO	ITEMS	MEAN	SD	Decision
9	Low battery capacity of students' smartphones, iPhones and tablets also affect digital classroom learning.	3.31	0.70	Agree
10	Complexities of some learning platforms discourage students' from digital learning.	2.66	1.09	Agree
CumulativeMean2.54				

Decision Mean = 2.50 Source: Online survey (2022)

Table 3, indicates the possible challenges faced by students' when they engaged in digital classroom learning. The general outcome shows that, learners face some challenges while engaged in digital classroom learning since the cumulative of 2.54 is higher than the decision mean of 2.50.

IV.   DISCUSSION OF FINDINGS

The study indicated that, students possess either smartphone, PC, tablets or iPhone which is an essential hard ware needed for digital classroom learning implementation. The overall result of the table1 shows that, students are ready for digital classroom learning since the cumulative mean of 2.56 is greater than the decision mean of 2.50. The result is corroborated by the study conducted by Olalekan., Hayatudeen. Kemi & Jummai (2021) On students' level of readiness toward the use of online learning platform during the Covid 19 pandemic, an over whelming majority of the respondents indicated a high level of readiness for online learning except for the fear of irregular power supply as expressed by sets of students. This result corroborated the finding of Chung., Subramaniam & Dass (2020) which also found that students' readiness to participate in online learning was relatively moderate. Student readiness was measured according to the five different factors; Communicative and Collaborative Skills, Meta-cognitive skills, Technology availability and skills, Cognitive skills, and Self-directed learning and average readiness sine-learning was found among PhD, masters and undergraduate students' in all factors listed above (Atousa.,.Zahra.& Mohammad. 2016).

The finding of the study also reveals that, students' communicates using online platforms with some difficulties to communicate with colleagues and lecturers/instructors during online lessons presentations. It also shows that, students' cannot make online presentation using zoom or Google Meet and they also face difficulties in solving simple internet problems that are related to digital learning. However, the overall result indicates that, students' have basic ICT skills needed for digital classroom learning as shown by the cumulative mean of 2.55 which is greater than the decision mean of 2.50. This finding is in-line with study conducted by Adegbilero-Iwari. Odefadehan. Owoeye. Olubunmi & Christopher. (2021) which clearly indicated that, nearly all students possess laptop, smartphone or tablets and greatly showed optimism on the significant improvement in ICT skills before graduation; It is also agrees with the finding of Oguguo. Okeke. Priscilla, Dave-Ugwu. Ocheni.m Ugorji. Hope Nwoji & Iheanacho. (2020), says that students possess knowledge of Microsoft world/Excel, PowerPoint, Search Engines and the Internet. This shows that these skills are paramount for effective learning to take place in this ICT age; a similar conclusion arrived at by Siddiquah and Salim (2017) which says that, students possess basic knowledge of ICT's such as knowledge of MSWord, MS Power Point, searching and browsing the internet.

Furthermore, there search reveals the possible challenges face by students' when engaged in digital classroom learning. It was clearly indicated that, the complexity of some learning platform discourage learners/students' from digital learning and also, shortage of school own computers is not a problem since must of the learners has PC, smartphone, iPhone or tablet. However, the general outcome of the table shows that, learners face some challenges while engaged in digital classroom learning since the cumulative of 2.54 is higher than the decision mean of 2.50. The finding of the study is related to the finding of Suryaman. Cahyono.

Muliansyah. Bustani. Suryani. Fahlevi & Munthe (2020) which stated that, students faced many obstacles in a home learning environment during Covid-19 pandemic, such as lack of mastery of technology, high Internet cost, and limited interaction/socialization between and among students. In a related research, Kapasia, Paul,P.,Roy,A.,Saha,J.,Zaveri,A.,Mallick,R.,& Chouhan, (2020) students faced some challenges during their online classes. These include anxiety, fair Internet service, depression and unfavorable learning environment.

V. CONCLUSION

In conclusion, it was understood that, students are ready for digital classroom learning. They also have basic ICTs skills needed for digital classroom learning. In addition, learners face some challenges when engaging in digital classroom learning.

VI. RECOMMENDATION

The researcher recommend that, institutions should encourage students' to improve in their ICTs skills because it is a key to modern teaching and learning and a stepping stone to individual, community and national development. Universities management board should ensure that, relevant ICTs infrastructures/equipment's are put in place in other to meet the global standard and schools should organize short course, workshops and seminar for lecturers/instructors on digital classroom learning to make them up to date in modern teaching and learning process.

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