

## Perception of Nigerian Open and Distance Learning Students on the Use of Instructional Technologies for Pedagogic Experience

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**Abstract:** This study aimed at determining the perceptions of distance learning students of the availability, accessibility, usefulness and influence of instructional technologies for acquiring pedagogic experience at Ogbomosho, Osogbo and Ilorin, Nigeria. The study was descriptive of cross-sectional survey type and used a researchers-designed questionnaire to collect data. A total of 397 undergraduate students were randomly sampled from six faculties in the sampled study centres. Four research questions were raised, answered and analyzed using frequency counts and percentages. The results showed that instructional technologies were not sufficiently available and accessible to the students at study centres for the acquisition of pedagogic experiences. The findings revealed that students displayed a good level of interest in experiential learning using the available instructional technologies due to a high perception of usefulness of instructional technologies for learning. However, inadequacy of the instructional technologies was a constraint towards access and adequacy of their utilization by the students. It was recommended that government and non-governmental organizations should work to procure adequate instructional technologies that would facilitate easy access to pedagogic experiences.

**Keywords:** Availability, accessibility, utilization, usefulness.

### صور الطلاب النيجيريين المفتوح والتعليم عن بعد حول استخدام التقنيات التعليمية للتجربة التربوية

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**مستخلص:** هدفت هذه الدراسة إلى تحديد تصور طلاب التعلم عن بعد عن مدى توافر التقنيات التعليمية وإمكانية الوصول إليها وفائدتها وتأثيرها لاكتساب الخبرة التربوية في أوغوموسو واسوغبو وإلورين في نيجيريا. كانت الدراسة وصفية لنوع المسح المقطعي باستخدام استبانة من تصميم الباحثين؟ لجمع البيانات. تم أخذ عينات عشوائية من إجمالي 397 طالب جامعي من ست كليات في مراكز الدراسة التي تم أخذ عينات منها. تم طرح أربعة أسئلة بحثية والإجابة عليها وتحليلها باستخدام حساب التكرار والنسب المئوية. أظهرت النتائج أن التقنيات التعليمية لم تكن متوفرة بشكل كافٍ يمكن الطلاب في مراكز الدراسة من اكتساب الخبرات التربوية. كشفت النتائج أن الطلاب أبدوا اهتماماً كبيراً بالتعلم التجريبي باستخدام التقنيات التعليمية المتاحة بسبب الإدراك العالي لفائدة التقنيات التعليمية للتعلم. ومع ذلك، كان عدم كفاية التقنيات التعليمية قيلاً أمام الوصول وكفاية استخدامها من قبل الطلاب. وقد أوصي من بين أمور أخرى أنه يجب على المنظمات الحكومية وغير الحكومية السعي للحصول على تقنيات تعليمية مناسبة من شأنها تسهيل الوصول إلى الخبرات التربوية.

**الكلمات المفتاحية:** التوافر، سهولة الوصول، الاستخدام، الفائدة.

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Access to a better quality of education in higher institutions has been a big concern to various governments and countries of the world due to poor infrastructural facilities to accommodate the teeming students' population in the conventional university. This exponential rise in enrolment calls for newer methods of teaching and learning faster with less stress. That is why nations around the world sought to provide quality education to every individual in an equitable and accessible manner (Kamar & Matazu, 2018). Hence, Open and Distance Learning (ODL) has been strategized to reduce this problem to the barest minimum; thereby helping to eradicate illiteracy and poverty in order to promote scientific advancement of the country. In Nigeria, the objectives of ODL are to widen access to education; ensure equity and equality of opportunities; enhance education for all, lifelong learning; provide flexible but qualitative education; reduce cost and admission inconveniences; and entrench a global learning culture (Okoronkwo, 2010). Open and Distance Learning (ODL) is a field of education that aims at delivering instruction with the aid of technology to students who are not physically present in a traditional classroom setting (Obasi & Akuchie, 2014). Jegede (2013) defines distance learning as a process of acquiring knowledge by someone without minding the geographical distance and time from the learner through electronic, print or other form of medium.

According to Ajadi, Salawu and Adeoye (2008), distance education is a system of education that the teacher is physically separated from the learner and instruction is delivered through a variety of media. Thus, this mode of delivery facilitates the adequate provision of pedagogic experience to the learner irrespective of distance, age, tribe or ethnic background of the learner. Distance education is described as access to qualitative and quantitative knowledge anywhere and anytime irrespective of geographical barrier and distance for improved performance. Ghosh, Nath, Agarwal and Nath (2012) refer Distance learning to situations in which learners are physically separated

from the educational provider, communicating in writing (by postal mail, e-mail, fax, or computer conferencing), verbally (by telephone, audio conferencing or video conferencing), or in periodic tutorial sessions.

Distance learning technology emerges from the need to extend learning opportunities at various levels to people who do not have access to traditional modes of education due to various reasons (Okebukola, 2013). The increase in the development and application of information and communication technologies to education process has birthed new set of learners that were not merely restricted to the brick and mortar classrooms in order to access, store, retrieve and disseminate information in various fields of endeavour with ease through distance learning technologies. The demand for higher education in Nigeria predicated the revitalization of the National Open University in Nigeria which has the mandate to: ensure equity and equality of opportunities in university education; provides wider access to university education in Nigeria; facilitate Education For All (EFA) and lifelong learning; ensuring entrenchment of a global culture; provision of educational resources via an intensive use of ICT; access to flexible and qualitative education and reduction in the cost, inconvenience and hassles of education delivery (National Open University of Nigeria (NOUN), 2004). National Open University of Nigeria (NOUN) is an Open Distance Learning (ODL) institution renowned for providing functional, flexible, accessible, cost-effective education adequate for flourishing in the 21st century and beyond. This type distance mode of learning delivery leaves room for bagging diploma, national diploma, first, second and third degree (Graduate, Master and Doctoral) certificates without having much effect on the learner's job through often times with less face-to-face method and the use of electronic resources to access and disseminate information.

Teaching and learning in National Open University of Nigeria (NOUN) and the affiliated center of the Nigerian Teachers

Institute is carried out through print and electronic media. Some of the electronic resources used by NOUN students are audiovisual electronic resources, instructional audio tapes, instructional video tapes, VCD/DVD, radio, television sets, multimedia projector, internet/E-mail facilities, computers, printer, digital camera and other related mobile technologies. However, printed materials remain a major instructional mode of delivery and are supported by other electronic communication technology media. Nathaniel, Onasanya and Yusuf (2019) attested that the emergence use of electronic resources for pedagogic experience in distance education is a giant stride in facilitating teaching and learning. Also, Samuel, Ogunlade and Onasanya (2018) were of the opinion that the use of electronic resources has broken the barriers of time, distance, and locale that could impede the growth of formal education.

According to Onasanya, Nathaniel, Sofoluwe and Onasanya (2014) and Onasanya digital media and electronic resources are credible tools in disseminating distance education; which facilitates concretization of learning, equal access to education, individualization of instruction, arouses learners' interests and provides for the immediacy of learning. Amedu (2014) and Nwana, Ofoegbu and Egbe (2017) that the use of computers and other related electronic resources are not sufficiently procured in Nigerian public schools, hence it resources is affected by their availability and ease of access. However, Alabi, Etejere and Onasanya (2012) emphasizes the ability of digital resources used for Open and Distance Learning programmes as viable ways of acquiring education transcend time and space, which makes asynchronous learning possible even in a more convenient environment.

Samuel (2016) further buttressed that students' access and use of electronic information resources for research and acquisition of pedagogic experiences facilitate students to be active learner which enhances experiential learning and permanent retention of learning experiences through focusing on the educational contents in updating and upgrading of

knowledge bank. Thus, reinforcement in pedagogical experiences is one of the major requirements needed for effective learning in any distance learning programme. Open and Distance learning programmes offer flexibility that cannot be matched by conventional programmes. These assurances have been established to the fullest by recent development in e-learning, especially in the context of online learning via the Internet. However, the programme is confronted with challenges such as high cost of production of instructional materials and acceptability of the products by the general public. Musingafi, Mapuranga, Chiwanza and Zebron (2015) opined that ODL teachers faced challenges of poor learners support services in some study centres that have high enrolment with inadequate instructional resources for students use. Laura (2010) remarked on a problem shared by the poor in all developing countries as lack of affordable access to relevant information and knowledge services, which with consensus the information and communication technologies (ICTs) presents the best solution to this problem, using distance learning as a medium that subsumes National Open University in Nigeria (NOUN) and NTI programmes been affiliated with(NOUN). This study investigated the perception of distance learning students (NOUN and NTI) on the availability, accessibility, usefulness and influence of instructional technologies for acquiring pedagogic experience.

### **Problem Statement**

Higher education institutions across the globe have been adopting the use of electronic instructional technologies in an effort to create better teaching and learning environment for both students and their instructors. Hence, it is expedient in this era of rapid technological development and innovation for for students to have access to pedagogic experiences through myriads of media and variety of activities to acquire practical skills. According to Nathaniel, Onasanya and Yusuf (2019), successful integration of learning in digital era depends largely on the availability and effective utilization of technologies in enhancing the credibility of any pedagogical experiences by both teachers and students.

Therefore it is paramount for teachers to know the technology to use and suitable learning strategies to employ, create, manage and use in order to disseminate information for instructional purposes.

However, the most frequently used method of teaching and learning of practical skills is print-based illustrations of procedural steps. Teaching of practical skills is different from theoretical teaching because it involved specialized skills of imparting practical experiences. In the conventional educational institution, learning of practical skills is more often conducted in the workshops and laboratories using special materials and equipment.

Several literature reviewed investigated both theoretical and empirical studies vis-à-vis the distance studies learning. According to Pawar (2000) teachers of Open and Distance Learning program faced challenges of teaching practical oriented courses due to how such skills are to be impacted to teeming population of the students. Hence, the use video and interactive multimedia on CD-ROM could be used as a substitute than print-based materials. Yusuf and Falade (2005) investigated the use of media by National Teachers Institute of distance programme learners and the constraints militating against their effective use of media. However, study conducted by Chikuya (2007) revealed the existence of constraints in the use of technological devices in Open and Distance Education for science-based practical work. For Mafa and Mpofo (2013), students have demonstrated the use of Information and Communication Technology to be easy to use, quickly in enhancing better retention and motivates students to learn. However, majority of the study centres do not have adequate facilities. Onasanya, Nathaniel, Laleye and Akingbemisilu (2013), investigated the use of mobile phones by distance education students in acquire and experience some related hidden curriculum in Nigeria. Thus, adequate pedagogical experiences cannot be attained without the knowledge of the availability, accessibility, usefulness and the influence of using instructional technologies in the attainment of stu-

dents' positive behavioural changes. This study investigated the perception of distance learning students (NOUN and NTI) on the availability, accessibility, usefulness and influence of instructional technologies for acquiring pedagogic experience.

### Study purpose

The study determined the students' perception on the:

1. Availability of instructional technologies for students' pedagogic experiences.
2. Students' accessibility to instructional technologies for pedagogic experiences.
3. Usefulness of the instructional technologies for students' pedagogic experiences.
4. Influence of instructional technologies on students' acquisition pedagogic experiences.

### Study questions

The following research question guided the conduct of this study.

1. Are instructional technologies available for students' pedagogic experiences?
2. Are instructional technologies accessible for students' pedagogic experiences?
3. Are instructional technologies useful for students' pedagogic experiences?
4. Do the available instructional technologies have influence on students' pedagogic experiences?

## Methodology

### Study design and sampling technique

This research was a descriptive research of the survey type and employed the use of the researcher-designed questionnaire to elicit response from National Open University of Nigeria and Nigerian Teachers Institute in Affiliation with National Open University of Nigeria (NOUN) students at Ogbomoso, Osogbo and Ilorin study centres. The population of the study was all students of National Open University of

Nigeria and Nigerian Teachers Institute. However, both male and female undergraduate students at Ogbomosho, Osogbo and Ilorin centers from the Faculty of Agricultural Sciences, Education, Health Sciences, Management Sciences, Sciences and Social Sciences were randomly selected for the study. A total of 450 questionnaires were distributed but a total of 397 were retrieved after administration of the research questionnaires, which is equivalent to 88.2% using simple random sampling technique.

**Study instrument**

The instrument consisted of five sections with students’ demographic information and research items to gather students’ perception on the availability, accessibility, usefulness and influence of the available instructional technologies on students’ acquisition of pedagogic experiences. The developed rating scale used for the study was: Strongly Agree (SA), Agree (A), Strongly Disagree (SD) and Disagree. The draft of the instrument was pilot tested and reliability coefficients of 0.81, 0.73, 0.78 and 0.84 were attained for section on the available, access, usefulness and influence of influence of the available instructional technologies on students’ acquisition of pedagogic experiences respectively. The data collected for this study were collated and analyzed using frequency counts, means and percentages to provide answers for research questions 1, 2, 3 and 4.

**Results**

**Question 1: Are instructional technologies available for students’ pedagogic experiences?**

Table 1 revealed the distance learning students’ responses on the availability of instructional technologies for acquiring pedagogical experiences. Considering the benchmark of 50 for percentages of the available instructional technologies revealed that Digital Video Disk players 202(50.9%), Multimedia projector 199(50.1%), Internet facilities 267(67.3%), Desktop computers 244(61.5%), Printers 212(53.0%), Digital camera 204 (51.4%), and mobile technologies: Laptops 289(72.8%), Ipads 216(54.4%), Tablet Pcs.

234(58.9%) and mobile phones 256(64.5%) were moderately available for students’ use. Subsequently, Internet facilities 267(67.3%), Desktop computers 244(61.5%) and mobile technologies 249(62.7%) were available and accessible to students. By implication, the grand mean scores of the analysed data revealed that 218(54.9%) are the available instructional technologies for used by the distance learning students as at the time this study was conducted.

**Question 2: Are instructional technologies accessible for students’ pedagogic experiences?**

Table 2 presents the students’ responses on the accessibility of instructional technologies for pedagogic experiences at the sampled study centres. The collapsed of “strongly agree and agree” results shows that 276(69.6%) out 397 affirmed that instructional technologies are accessible for students’ use. However, the frequency counts of 269(67.8%) and 244(61.5%) affirmed that only few number of students always have access to the instructional technologies and based on the fact that they are not easily accessible by the students respectively. The frequency counts of 193(48.7%) agreed that the available instructional technologies were accessible to individual students’ effective acquisition of pedagogical experiences. The grand mean scores revealed that 223(56.2%) of the respondents affirmed the accessibility of instructional technologies for pedagogic experiences. By implication, the available instructional technologies provided for distance learning students were not adequately available and accessible for individual students’ use for effective acquisition of pedagogical experiences.

**Question 3: Are instructional technologies useful for students’ pedagogic experiences?**

The result in table 3 shows that the usefulness of instructional technologies facilitates individualistic pedagogic experiences 364(91.7%), cut across all aspects of pedagogic experiences 275(69.2%), makes learning more experiential 372(93.6%), facilitate fast and systematic learning

**Table 1**  
**Availability of Instructional Technological for Students' Use**

Items	Available		Not Available	
	Frequency	%	Frequency	%
Instructional technologies				
Audiovisual sets.	190	47.8	207	52.2
Television sets.	183	46.1	214	53.9
Digital Video Disk Player.	202	50.9	192	49.1
Radio.	112	28.2	285	71.8
Multimedia projector.	199	50.1	198	49.9
Internet facilities.	267	67.3	130	32.7
Desktop computers.	244	61.5	153	38.5
Printers.	212	53.0	185	47.0
Digital camera.	204	51.4	193	48.6
Mobile Technologies:				
• Laptops.	289	72.8	108	27.2
• Ipads.	216	54.4	181	45.6
• Tablet Pcs.	234	58.9	163	41.1
• Mobile Phones.	256	64.5	141	35.5
Mean score for mobile technologies	249	62.7	148	37.3
<b>Grand Mean Score</b>	<b>218</b>	<b>54.9</b>	<b>179</b>	<b>45.1</b>

**Table 2**  
**Students' accessibility to instructional technologies for pedagogic experiences**

No	Items	SA (%)	A (%)	Freq of A	$\sum$ of A (%)	SD (%)	D (%)	Freq of D	$\sum$ of D (%)
1.	Instructional technologies are readily accessible for students' use.	54.7	14.9	276	69.6	17.8	12.6	121	30.4
2.	Only few number of students always have access to the instructional technologies.	49.2	18.6	269	67.8	19.4	12.8	128	32.2
3.	Accessing of the instructional technologies for students utilization is easy.	22.6	15.9	153	38.5	43.6	17.9	244	61.5
4.	Individual student is accessible to the available instructional technologies for use.	27.6	21.1	193	48.7	39.2	12.1	204	51.3
	<b>Grand Mean scores</b>	<b>38.5</b>	<b>17.7</b>	<b>223</b>	<b>56.2</b>	<b>29.9</b>	<b>13.9</b>	<b>174</b>	<b>43.8</b>

**Table 3**  
**Usefulness of the instructional technologies for students' pedagogic experiences**

No	Items	SA (%)	A (%)	Freq of A	$\sum$ A (%)	SD (%)	D (%)	freq of D	$\sum$ D (%)
5.	The usefulness of instructional technologies facilitates individualistic pedagogic experiences.	40.0	51.7	364	91.7	6.7	1.6	33	8.3
6.	The usefulness of instructional technologies cut across all aspects of pedagogic experiences.	47.4	21.8	275	69.2	23.4	7.4	122	30.8
7.	The use of instructional technologies makes learning more experiential.	21.2	72.4	372	93.6	3.6	2.8	13	6.4
8.	The use of electronic instructional technologies facilitate the acquisition of all pedagogic experiences.	21.8	24.5	184	46.3	43.3	10.4	213	53.7
9.	The use of instructional technologies facilitate fast and systematic learning experiences by each student.	63.7	28.2	365	91.9	4.9	3.2	32	8.1
10.	The use of instructional technologies arouses students' interest to learn.	56.8	37.2	373	94.0	3.6	2.4	24	6.0
	<b>Grand Mean scores</b>	<b>41.8</b>	<b>39.3</b>	<b>322</b>	<b>81.1</b>	<b>14.3</b>	<b>4.6</b>	<b>75</b>	<b>18.9</b>

experiences by each student 365(91.9%) and arouses students' interest to learn 373(94.0%). However, the frequency counts of 213(53.7%) disagreed that the

use of electronic instructional technologies facilitate the acquisition of all pedagogic experiences. The grand mean score of 322(81.1%) out of 397 respondents af-

firmed with the usefulness of instructional technologies in facilitating the acquisition of all pedagogic experiences. This implies that instructional technologies facilitates individualistic learning, makes learning more experiential, encourage fast and systematic learning experiences by each student and arouses students' interest to learn better.

**Question 4:** Do the available instructional technologies have influence on students' pedagogic experiences?

The results in table 4 showed the respondents' responses on the influence of the available instructional technologies on students' acquisition of pedagogic experiences. The analyzed data revealed that the use of instructional technologies facilitates effective retention of pedagogical experiences by the learners 293(73.7%), arouses learners' attention to the fullest 363(91.4%), have positive influence on the students' effective pedagogic experience 367(92.4%), students' facilitates students' acquisition of practical learning skills 337(84.9%) and encourage students to cultivate considerable level of interest towards learning 312(78.6%). The grand mean scores of 334(84.1%) of the respondents affirmed that the available instructional technologies have positive influence on the students' acquisition of pedagogic experience. By implication, the use of the available instructional technologies facilitate effective retention of pedagogical experiences by the learners, arouses learners' attention to the fullest, facilitates students' acquisition of practical learning skills and encourage students to cultivate considerable level of interest towards learning.

### Discussion

From the results obtained for the study, this study agreed with Yusuf and Falade's (2005) findings that technologies provided for the NOUN and NTI programmes were not sufficiently available and accessible for students' effective use in the sampled study centres. The findings concurred with Okebukola (2013) and Nathaniel, Onasanya and Yusuf (2019) findings that information and communication technologies have potential to accelerate, enrich and deepen skills, motivate and engage

students in learning. Based on the influence of use of instructional technologies this study agreed with Mafa and Mpofu (2013) that they are easy to use, quickly in enhancing better retention and motivates students to learn. Thereby, contributing immeasurably to effective teaching and learning. Similarly, the findings that instructional technologies facilitate individualistic learning, makes learning more experiential, encourage fast and systematic learning experiences by each student and arouses students' interest to learn better concurred with Onasanya, Nathaniel, Laleye and Akingbemisilu (2013) that their usage affords individualization of learning, arouses the interest of the learner, facilitates the retention of learners' attention while learning, concretize learning thereby bringing about the permanency in retention of the learnt materials. This implies that the available instructional technologies provided for the under studied centres arouses students' interests and enhances effective acquisition of pedagogic experiences. The usefulness and effectiveness of the available instructional technologies facilitate effective retention of pedagogical experiences by the learners, arouses learners' attention to the fullest, facilitates students' acquisition of practical learning skills and encourage students to cultivate considerable level of interest towards learning agreed with Onasanya, Nathaniel, Laleye and Akingbemisilu (2013) that the use of multimedia possesses influence to attitude, arouse emotions and motivate actions to acquire pedagogical experiences. However, this study disagreed with Musingafi, Mapuranga, Chizanza and Zebron (2015) that teachers faced challenges of poor learners support services in some study centres that have high enrolment with inadequate instructional resources for students use.

**Table 4**  
**Influence of instructional technologies on students' acquisition pedagogic experiences.**

No	Items	SA (%)	A (%)	Freq of A	$\Sigma$ A (%)	SD (%)	D (%)	freq of D	$\Sigma$ D (%)
11.	The use of instructional technologies facilitate effective retention of pedagogical experiences by the learners.	26.9	46.8	293	73.7	11.8	14.5	104	26.3
12.	Usage of instructional technologies arouses learners' attention to the fullest.	57.3	34.1	363	91.4	4.1	4.5	34	8.6
13.	The use of instructional technologies positive influence on the students' effective pedagogic experience.	34.2	58.2	367	92.4	3.4	4.2	30	7.6
14.	Students' practical learning skills are facilitated when instructional technologies are used.	46.7	38.2	337	84.9	8.9	6.3	60	15.2
15.	Insrtuctional technologies encourage students to cultivate considerable level of interest towards learning.	51.7	26.9	312	78.6	14.2	7.2	85	21.4
	<b>Grand Mean score</b>	<b>43.4</b>	<b>40.7</b>	<b>334</b>	<b>84.1</b>	<b>8.6</b>	<b>7.3</b>	<b>63</b>	<b>15.9</b>

### Conclusion

The study revealed that the technologies provided for the NOUN and NTI programme were not sufficiently available, accessible and effective for all the students' use. The available technological devices can only be accessed by few numbers of the students thereby not facilitating effectiveness in teaching and learning by the students. These findings revealed that students displayed a good deal of interest in experiential learning using technological devices.

However, inadequacy of the instructional technologies was a constraint towards access and adequacy of their utilization by the students.

### Recommendations

Based on the findings of this research, the followings were recommended.

1. Educational stakeholders, government and non-governmental organizations should endeavour to procure adequate learning technologies for students' use in all study centers nationwide.
2. Students should further be encouraged to use newer technological devices that would facilitate easy access to pedagogical experiences.
3. Workshop and seminar should be conducted for both teachers and the students on how to judiciously har-

monize newer technologies for pedagogical experiences.

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