

**AN ASSESSMENT OF STUDENTS' READINESS FOR DIGITAL LEARNING IN SENIOR SECONDARY
SCHOOLS IN LAGOS STATE**

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Abstract

This study investigated students' readiness for digital learning in senior secondary schools in Lagos state, Nigeria. Descriptive survey research design was adopted in the study. A sample size of 245 respondents was randomly selected from four educational districts in Lagos using confidence level of 95% (0.05). A Multi stage sampling approach involving both simple and stratified random sampling technique was used to select the students. The sample for the study is made up two hundred students randomly selected across 8 schools in four educational districts in Lagos. A self-developed 4-point Likert-type scale on the research objectives was used as an instrument of data collection and the instrument was thoroughly scrutinized by an expert in the area of ICT. The instrument was validated and found to be reliable. It was personally administered by the researchers. Four research questions and two hypotheses guided the study. Both descriptive statistics such as mean and standard deviation were used to answer the research questions and inferential statistics as used to test the hypotheses. The findings of the study revealed among others that there is positive disposition/perception of respondents towards digital learning. The study also revealed that there is no significant gender difference in perception and utilization of digital learning facilities among the students. The study therefore recommended that the secondary school administrators should incorporate digital learning as part of the curriculum to enhance the interest of learners.

Keyword- Readiness, Digital Learning, Assessment, Self-efficacy

Introduction

The world has witnessed massive evolution both in advancement and adoption rate for the digital technologies in daily human life (Zafiroopoulos, 2010). The academic and learning institution is one area which has also seen such changes. An important aspect is user acceptance of instructional technology. Electronic learning (E-Learning) is one of a popular technology being adopted in learning institutions as a teaching and learning platform and other various activities between teachers and students. The pace of change and the uncertainty about how transfer of knowledge will evolve has made it increasingly important for learning institutions to be aware of the students that participate in e-learning and to understand the roles of e-learning in transferring and exchanging knowledge (Hung and Chou, 2010).

Efforts to control the spread of the COVID-19 virus have affected all sectors of society worldwide, including the education system that switched to digital education or what was titled, emergency remote teaching (Hodges, Lockee, Trust, Bond, 2020). Despite already established digital learning platforms and the usually good technical equipment of students, it would be misleading to assume a general ability of the so-called “digital natives” to use technology in academic contexts, Alajmi, M. (2010). The same is true regarding the acceptance of technology. Hence, in 2020, students were expected to do more to cope with the pandemic restrictions and the uncertainties that follow it; they were also to contend with digital learning. Students need (likely better) technical equipment, relevant skills and tools for using hard and software, and for interacting virtually with their teachers and peers.

Readiness, which is extremely important in the education-instruction process, is a significant input for learning-teaching system (Bloom, 1995). Change in behaviour of the student is based on the readiness of the student. The factor of readiness to teach for the teacher and to learn for the student should not be ignored in this different medium. Thus, readiness for online learning is expressed through factors such as time management, self-guidance skill, which is in the nature of online learning, adopting the internal resources of motivation, recognition of personal learning style, and experiences (Smith, Murphy, and Mahoney, 2003). For students to benefit from online learning settings, they should possess online readiness. Thus, Borotis and Poulymenakou (2014) defined online readiness as being mentally and physically ready for certain online learning experiences and actions,” while it was defined as the capacity to follow up the opportunities that facilitate the use of e-resources such as Internet (Choucri, Maugis, Madnick, Siegel, Gillet, O’Donnel, Haghseta, 2013).

Previous studies considered online learning readiness from different perspectives. Williams (2015) made a three-way definition of the concept of online learning readiness. The mode of education that students prefer to the face-to-face education; Efficacies of students to utilize Internet and computer-aided communications for learning; the skill to participate in independent learning. Hung and Chou,(2010) developed a Readiness for Online Learning Scale that includes sub-dimensions of self-directed learning, student control, motivation, computer/internet self-efficacy towards learning and online communications self-efficacy by considering that five different sub-dimensions should be taken into account while measuring online learning readiness on digital learning. In order to shift from the traditional instructional resources to digital and more innovative resources, students have to be prepared for the transformational curriculum. To be ready for this shift, students need to have all the competencies that will help them adopt this change successfully. These competencies include skills and knowledge in the use of digital tools in all curriculum domains and making students’ learning extend beyond the classroom (Jing, 2013). Technology has great potential to enhance curriculum and teaching processes. Introducing the digital learning in school curriculum is important, as it allows students to learn in their own time and place. Moreover, while it allows students to be self-directed, it also provides them with the ability to connect online and download resources that are essential for their educational requirements. Digital learning holds a number of potential benefits for the student, including access to learning tools and resources which include text, audio and video, e-mail, online discussions, and evaluations. It is a useful tool for enhancing the quality of teaching and learning.

Statement of the Problem

In the present information age, the issue of students’ use of digital learning is of crucial importance; this is so because the use of digital learning by students would enhance competence and confidence in them. Contemporary young people are commonly designated as digital technologies characterized by habitual use of Information Communication and Technology (ICT) in everyday life. According to the UNDP (2019) almost 80% of the students in developing countries feel that they are not prepared to use the technology. The integration of information and communication technologies into curriculum is a crucial process in ensuring the quality of education (Hue and Jalil, 2013). However, the presence of technology alone will not stimulate significant changes in a school. Teachers are an important ingredient in the implementation of digital learning in education. Without the involvement of teachers,

most students may not take advantage of all the available potential benefits of digital learning on their own. Therefore, since the digital learning strongly depends on the attitudes/readiness of the students, this study aims to investigate the assessment of students' readiness to digital learning in Lagos State of Nigeria.

Purpose of the Study

The purpose of this study is to assess students' readiness on digital learning in senior secondary school in Lagos state, Nigeria. Specifically, the study seek to:

1. Determine the perception of students towards digital learning.
2. Investigate students' motivating factors towards the acceptance of digital learning.
3. Determine the rate of utilization of schools' digital learning facilities.
4. Investigate student confidence level on use of digital learning environment.

Research Questions

The following research questions guided the study:

1. What are the perceptions of students towards digital learning?
2. What are the motivating factors that enable students' acceptance on digital learning?
3. To what extent is the rate of utilization of schools digital learning facilities?
4. What is the level of students' confidence of digital learning?

Hypotheses

The following hypotheses guided the study

Ho: There is no significant difference in student perception of digital learning facilities based on gender of the students

Ho: There is no significant difference in adoption of digital learning facilities based on gender of the students

Methodology

The study adopted a descriptive survey design. The design exploited mostly quantitative approach. The population of the study consists of the senior secondary school students in Lagos state which is estimated to be 76, 500 according LASSG (2019). A multi stage sampling procedures was adopted in the selection of the participants. At the first state, the population was stratified into three groups using the educational district in Lagos as the basis for stratification. This was done to ensure that the entire educational district had equal chances of been selected. Using a simple random sampling method involving the pick and drop technique 60% (4) of the district were sampled. Consequently, a list of the entire Schools in each of selected district was drawn and the names of schools within that district were written on pieces of paper, using pick and drop method, two schools each were randomly selected. A total of 8 schools emerged from this process. Finally, 25 students were randomly selected from each of the participating schools. In all, two hundred students formed the sample for the study

A questionnaire titled, "Students' Readiness towards Digital Learning" was used to elicit response from the respondents. The questionnaire was designed in line with the Likert scale and require the respondents to tick any of the options to indicate their level of agreement, and the response mode include, Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument was validated by experts in the area of ICT education while test-retest method of reliability was utilized with reliability co-efficient of 0.72. This indicates that the instrument is reasonably reliable. The researcher administered the questionnaire to the participants with the help of research assistants for the exercise. Completed copies were collected after it was appropriately filled. The data collected were analyzed using descriptive statistics of frequency and percentage count of the respondents in the various categories. The hypotheses were tested using Multiple Linear Regression and Pearson Product Moment Correlation Coefficient (PPMC) at 0.05 significance level to determine the influence and relationships among variables. The analysis was done with the aid of Statistical Packages for Service Solution (SPSS)

Result and Discussion of Findings

Research Question 1: What are the perceptions of students towards digital learning?

To answer this research question, descriptive – mean and standard deviation were used and the result presented in table 1. Below

Table 1: Mean and Standard Deviation of Students Perception towards Digital Learning

S/N	Statements	Mean	Std. Dev.
1	Digital learning cannot be used for all subjects	3.60	.82
2	Digital learning reduces concentration and retention abilities	2.90	.87
3	Digital learning can be frustrating because of lack of power supply	3.21	.90
4	Digital learning makes learning easy	3.10	.93
5	Digital learning cannot be as effective as the traditional learning system	1.50	.78
	Average Weighted Mean	2.86	.86

Field work 2022, Note: N=200 (i) Maximum mean score= 4, Minimum Mean Score (1) (ii) Mean Bench Mark 2.5.

The Table 1. Shows that majority of the statements (1, 3 and 4) have mean scores that are above the cut-off mark of 2.50. This is also evident from the Weighted mean value of 2.86 with a corresponding Standard deviation of 0.86. These mean scores are high enough to conclude that the students' perception towards digital learning may be positive.

Research Question 2: What are the motivating factors that will enable students' acceptance on digital learning?

To answer this research question, descriptive – mean and standard deviation were used and the result is presented in table 2. below

Table 2: Mean and Standard Deviation of Factors Motivating Students Acceptance

S/N	Statements	Mean	Standard Dev.
1	I have access to reliable computer device and internet	2.00	.85
2	I have never made use of any computer device except calculator	1.94	.90
3	Digital learning is more fun	3.07	.84
4	Digital learning permits freedom to ask questions and make suggestions in class or group discussion	2.65	.84
5	Digital learning provides the choice of studying more and choosing what to study	3.41	.72
	Weighted mean	2.61	.83

Field work 2022, Note: N=200 (i) Maximum mean score= 4, Minimum Mean Score (1) (ii) Mean Bench Mark 2.5.

The table 2. Shows that majority of the statements are above the mean cut-off mark of 2.5 that was regarded as acceptable. This is also evident from the Weighted mean value of 2.61 with a corresponding Standard deviation of 0.86 which is above threshold of 2.5. These mean scores are high enough to conclude that the factors identified were positive enough to motivate digital learning among secondary school students

Research Question 3: What is the rate of utilization of schools' digital learning facilities? To answer this research question, descriptive – mean and standard deviation were used and the result is presented in table 3. below

Table 3: Mean and Standard Deviation of Utilization of Schools' Digital Learning Facilities

S/N	Statements	Mean	Standard Dev.
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1	I can operate computer to study effectively	3.40	0.32
2	I have a smartphone	2.50	0.57
3	I have access to reliable internet and computer devices	1.07	0.32
4	Computers and smartphones interest me all the time	3.15	0.60
5	I have taken an online course	2.08	0.50
Average Weighted Mean		2.44	.462

Field work 2022, Note: N=200 (i) Maximum mean score= 4, Minimum Mean Score (1) (ii) Mean Bench Mark 2.5.

The result on Table 3, Shows that most of the statements are below 3.00 which depict unacceptable statements except for statement 11 and 14. The average weighted mean stood at about 2.44 which imply majority of the students are unwilling to explore the use of information communication and technology and digital learning facilities in schools.

Research Question 4: To what extent do students have confidence on digital learning?

To answer this research question, descriptive – mean and standard deviation were used and the result is presented in table 4. Below

Table 4: Mean and Standard Deviation on Students Confidence Level on Digital Learning

S/N	Statements	Mean	Standard Dev.
1	Taking online tests is frightening	2.40	.65
2	Studying online is relaxing and interesting	3.50	.43
3	Digital learning is complex to use or participate in	3.07	.32
4	Digital learning is not straight forward to understand	2.90	.60
5	I prefer digital learning to traditional learning	3.41	.87
Average Weighted Mean		3.04	.57

Field work 2022, Note: N=200 (i) Maximum mean score= 4, Minimum Mean Score (1) (ii) Mean Bench Mark 2.5.

The result on Table 4 shows that majority of the statements are above mean cut-off mark of 2.5. The average weighted mean stood at 3.04 high enough to conclude that there is a high student confidence in digital learning.

Test of Hypotheses

Hypothesis: Ho: There is no significant difference in students perception of digital learning facilities based on gender of the students. To test the hypothesis, independent t-test was used and the result is presented in the table below:

Table 5: t- analysis of difference in students' perception of digital learning

Table 5. Indicate that there was no significant difference in perception between women and men about digital

Variables	N	Mean	Standard Deviation	Df	t-cal	P	Inference
Male	112	3.14	0.94	197	1.45	0.15	Significant
Female	88	2.69	0.74				

learning, $t(197) = 1.46$, $p = .15$. That is, the average performance score of male ($M = 3.14$, $SD = 0.94$) was not significantly different from that of female ($M = 2.69$, $SD = 0.74$). Consequently, the null hypothesis which states "There is no significant difference in perception of digital learning based on gender of the students was accepted.

Hypothesis Two: **Ho:** There is no significant difference in adoption of digital learning facilities based on gender of

the students. To test the hypothesis independent t-test was used and the result is presented in the table below:

Table 6: t- analysis of difference in students’ adoption of digital learning

Table.6 indicate that there was no significant difference in perception between women and men about digital

Variables	N	Mean	Standard Deviation	Df	t-cal	P	Inference
Male	112	3.21	0.54	197	1.9	0.17	Significant
Female	88	2.93	0.67				

learning, $t(197) = 1.9$, $p = .17$. That is, the average performance score of male ($M = 3.21$, $SD = 0.54$) was not significantly different from that of female ($M = 2.93$, $SD = 0.67$). Consequently, the null hypothesis which states “There is no significant difference in adoption of digital learning based on gender of the students was accepted while the alternate hypothesis was rejected

Discussion of Findings

This study investigated students' readiness for digital learning in senior secondary schools in Lagos state, Nigeria. On research question one, the finding reveals the perception of students towards digital learning that most of the respondents are positive and ready for digital learning but the main demotivating factor is in lack of information communication and technology facilities. Most of the respondents use smartphones as a form of online learning method as well as YouTube, Google Classroom and Zoom are other online learning methods used by respondents for social purposes. Also analysis in Table 3 shows that students are ready to accept digital learning but the issue of inadequate/lack of information communication and technology facilities is demotivating the students’ acceptance of digital learning. This is inclined with (Allen, 2015) assertions that, “acceptance of digital learning is in the hands of e-learning pedagogue and facilities.” This finding is supported by Schunk & Usher (2012), that learner motivation is not only important, it can also influence what we learn, how we learn and when we choose to learn. Respondents in this study have shown lower means scores for online communication self-efficacy compared to the other three dimensions. Although they are confident in using online tools to communicate with others and express their thoughts online, they don’t usually post questions in online discussion.

This is supported by findings of Hung et al. (2010), McVay (2000, 2001), Salaberry (2000), Roper (2007) that suggested that students who have better online communication self-efficacy are generally comfortable in expressing themselves in writing. The lower mean score for online communication self-efficacy in this study suggested that the respondents are not exactly ready for online learning. The lack of questioning is a common phenomenon even in face- to- face learning in this university. Students in this university rarely ask questions during lectures even when they do not understand the content of the lesson. Perhaps this is due to their apprehension of being a laughing stock or being seen as not intelligent by their peers. They tend to sit around waiting for answers to be given or fed to them, a typical spoon-feeding culture. From this result, it can be interpreted that students in this study are relatively confident in their skills in using computer and internet in order to learn online. In other words, students are generally proficient in using technology due to their exposure to technology-rich environments (Jones, 2012). These skills include searching for information online, performing basic functions on MS Excel, MS PowerPoint and MS Word, as well as managing online learning software. These are important skills to have for enhancing students’ readiness for online learning.

Finally, for learners’ control dimension, the mean score is the lowest among the five dimensions. Respondents agreed they repeated online learning material based on their need, however they cannot direct their own learning progress while learning online. Most importantly, they are often distracted by other online activities while learning online. This perhaps is the biggest challenge of online learning among learner.

Conclusion

From the findings and discussions above, learner control needs to be given attention in order to help students to be better ready for online learning and competence in online communication. Firstly, with regard to online communication self-efficacy, lecturers need to encourage students to express their thoughts and post questions more frequently in online discussion. As students in secondary school, generally, are passive learners even in face-to-face learning, teachers may need to provide some sort of rewards system or positive reinforcements for students to communicate during online learning. It can be done in such a way that part of the ongoing assessment to include expressing their opinions and posting questions online. This will also allow other students to respond to the questions thus online discussions can be built on from there.

Recommendations

In the light of the findings of this study, the following recommendations were made:

1. Administrators of Secondary school education should as a matter of urgency adopt and integrate digital learning as an alternative to face to face approach that are been currently in use while ensuring necessary facilities and support needed for full operation is provided.
2. Stakeholders, especially the teachers, must be involved in education policymaking, implementation and evaluation as a responsibility as well as a right. By listening to teachers, policy makers would receive first-hand information and experience from the grassroots that could help them tackle core issues in the education system, improve the standard and quality of digital learning in schools.
3. Government should show more commitment to digital learning by implementing the UNESCO recommendation of allocating 26 percent of total country annual budget to education and especially e-learning. This will facilitate the procurement of all the necessary instructional materials and provision of conducive environment for proper digital learning.
4. Evaluation of the policy should be carried out by experts to determine the alternative decisions to take. If in-depth evaluation of an education policy is carried out, the strength and weakness of such policy will be discovered and the right decisions concerning the policy will be taken.

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