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The Dynamics of Educational Technology in Raising Learners' Awareness in a Chaotic Time

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Abstract

This study investigates the dynamism of educational technology in enhancing learners' awareness during a turbulent time. The researcher used a descriptive research design of survey types for the study, with a sample of 550 respondents chosen randomly from five schools in the Nigerian city of Ado-Ekiti. The researcher gathered data via self-created questionnaires and discovered a reliability coefficient of 0.85. Respondents' opinions were analyzed using simple percentages, and the study hypotheses were examined using the PPMC (Pearson Product Movement Correlation) approach. The result found that 320 students, or 58.2%, agreed with the statement that the environment in which they live determines their understanding of educational technology. The findings also revealed a strong correlation between the variables (environmental factors, a lack of educational technology resources, parental socio-economic position, and gender) and secondary school students' academic awareness. (r =.420**, N = 200, P.05)

It is recommended that teachers motivate students to use educational digital learning tools to aid their studies rather than rely on the teachers' teaching notes. Teachers should add more educational internet apps to the school's learning lab and convince learners to use digital learning tools to support their teachers' efforts during challenging home and school periods.

Key words: Chaotic Time, Dynamics, Digital Learning Tools, Educational Technology, Learners' Awareness.

1. Introduction

When social information mediation is tainting the credibility of the anticipated resources that can enhance better-informed learners during learning, studying educational technology using a digital learning tool (Edmodo, Socrative, Projeqt, Thinglink, Ted-ed, cK-12, ClassDojo, eduClipper, Storybird, Animoto, and Kahoot) explore a range of related information, which improves engagement, learning, and analysis, as well as

digesting information delivered by the teacher and other supporting tools anywhere and any time. Digital learning tools allow students to determine their study speed, are interactive, encourage collaboration, and encourage creativity, and students can utilize the online portal to search for information. In other words, academic awareness in today's schools is plagued by a chaotic situation, a major phenomenological problem. Because of this, one can't say enough about educational technology's importance and approaches. The dynamics of educational technology open up new opportunities for self-discovery and more profound comprehension of one's own experience. A child who modifies learning resources stands out from his classmates because he learns more than they do and better comprehends what is taught in class.

Ogunlade (2019) describes converting ICT components into symbols, letters, words, learning tools, or ideas that have personal value for a person as known as educational technology. The learner can also process visual information and figure out what it means, allowing them to understand what is shown in a text, graphic, video, or audio, whether still or moving. Ideally, to develop learners' awareness, which must begin in the early stages of life, it is widely believed that reflective disciplinary activity requires the use of learning strategies: the resources to use, how to use them, and when to use them. It is also widely believed that there should be a conducive environment to stimulate lifelong activities, such as the procedure to use and the analysis strategies mobilized (Yan & Yuhau, 2021)

Raising learners' awareness is crucial since one of education's most vital components is their capacity to use, alter, and value educational technology to comprehend and critically evaluate

their subject matter's complex ideas and concepts. (Ogunlade, & Fakuade, 2018)). However, the teacher must regularly inform the students about the dynamism of educational technology to raise awareness in the chaotic environment where there are epidemics, kidnappings, and acts of terrorism. (Kumari., & Denisia, 2013) Therefore, students should develop the capability to understand digital learning tools from early childhood throughout their whole life. Cabi (2018) says that the best time to learn about educational technology is when one is young and easily influenced in school. However, once learners learn about it, they will remember it for the rest of their life.

Gupta, M., & Singh, K. (2017) pointed out several things that make it hard for students to learn with technology. These include: the students' families, where noise and a lack of devices make it hard to use educational technology tools; the fact most of the schools they looked at didn't have ICT learning applications or trained educational technologists; and schools didn't have academic technology periods; ICT teachers; and a lack of equipment and resources for teaching learning technology.

A crucial skill for students to have is awareness. Students should adopt a learning consciousness that will enable them to successfully navigate all facets of life. Educational technology is essential for students in the twenty-first century whose mission and objectives are to succeed in their academic and future endeavours. Additionally, improving mental, imaginative, and creative abilities enhances academic performance.

Aina (2012) claimed that around 30 million Nigerians graduated from secondary schools without understanding the usefulness of educational and technological skills. He blamed this on the ignorance they had developed while in school. Educational technologies improve

individual intellectual growth and self-confidence. Well-informed students will undoubtedly be successful in their academic endeavours. However, compared to students in industrialized nations, many educational technology experts find that Nigerian students have weak attention spans (Okebukola, 2017).

The teachers must reevaluate how stakeholders raise awareness of educational technology for use in classrooms and learning settings. One of Nigeria's current most significant security issues has continued to be kidnapping. According to Ashiru, who Lawal cited, the abduction of the Chibok and Dapchi schoolgirls sent a wrong message to parents (2018). Many parents in Nigeria think that sending their children to school requires a careful balancing act. Although the government is working to tackle kidnapping, Boko haram, and herders, their efforts do not significantly impact. Students have, as a result, been killed and injured both within and outside the school's boundaries (Odigbo, 2013). If implemented appropriately, educational technology can reverse this unpleasant trend.

2. Statement of the Problem

Considering educational technology is good because it is essential to all learning activities. However, the incredible performance of students in public exams, particularly at the secondary school level, is one of the significant issues the Nigerian educational system is currently dealing with. This appalling failure can be attributed to a lack of learning resources to support classroom learning activities or ignorance of the dynamism of educational technology in an interdisciplinary approach to the internet's preference.

Although there are many reasons why teachers choose to use educational technology tools,

observations and research have shown that secondary school student's academic awareness has declined recently, particularly in developing nations, because using educational technology is not viewed as a relevant leisure activity and, as a result, does not contribute to the student's academic interactions (Bukola., Foluke., Feyisayo., & Marvelous, 2021). The introduction of ICT, such as the internet, cell phones, video games, and other viewing gadgets, is another significant issue contributing to secondary school students in Ado-Ekiti unaware of educational technology (digital learning tools). One factor impeding the usability of educational technology is the scarcity of information resources like multimedia equipment, both in the school laboratory and at home (Ogunlade & Akhigbe, 2016).

Because awareness is a cornerstone of overall educational development, concerns have been raised about how secondary school students in Ado-Ekiti, adjust to digital learning tools. Educational technology boosts individual self-confidence as well as moral and intellectual development.

3. Objectives of the Study

The following purposes guide the study:

• to examine the awareness of digital learning tools among secondary school students in Ado-Ekiti.

• to understand the role of environmental factors on the awareness of digital learning tools on secondary school students in Ado-Ekiti.

• to study the combined effect of Gender inequality on digital learning tools on secondary school students in Ado-Ekiti.

• to determine how parents' socio-economic status influences digital learning tools on secondary school students in Ado-Ekiti.

• to determine the impact of lack of awareness of educational technology on secondary school students in Ado-Ekiti.

4. Research Question

A research question guided the study:

What are the roles of environmental factors on the academic awareness of secondary school students toward digital learning tools in Ado-Ekiti?

5. Hypotheses

Four hypotheses guide this study;

Ho1: Insignificant connections exist between digital learning tools and the academic awareness of secondary school students in Ado-Ekiti.

Ho2: There is no significant combined contribution between genders on digital learning tools in the chaotic environment of Ado-Ekiti secondary school.

Ho3: There is no significant contribution to the socio-economic status of parents and educational technology of secondary school students in Ado-Ekiti.

Ho4: There is no significant connection between the lack of educational technology tools in Ado-Ekiti secondary schools and how much students know about them.

6. Methodology

This study adopted a descriptive survey design. The population comprised 10,050, of whom 550 male and female students were randomly selected with simple and stratified sampling techniques. Out of 15 secondary schools in Ado-Ekiti, the researcher chose only five for the study. One hundred and ten

(110) students were randomly selected from each school. The instruments used for this study were self-developed questionnaires. The instrument contained 30 items, which were divided into five sections, namely Section A, made up of five items of attributive data (gender, age, class, and time used on digital learning tools), Section B, which was made up of five items measuring parents' status on the usability of educational technology, and Section C, which was made up of five items measuring environmental factors on digital learning tools for students and chaotic time. Section D comprises five items measuring the impact of the lack of educational technology materials on students' academic performance, and Section E contains ten items measuring learners' awareness. The questionnaire was designed on a four-point rating scale of strongly agree (S.A.), agree (A), disagree (D), and strongly disagree (S.D.), with the corresponding values of 4, 3, 2, 1. Therefore, this researcher measured the study's face and content validity by following the objectives. In testing for reliability, the researcher used the split-half approach. The instrument was administered at Government Secondary School, Ado-Ekiti, with 42 respondents, consisting of 22 female and 20 male students who were not included in the study. The instrument was administered to them within two weeks. The responses to the items were then randomly divided into halves. Each half was then treated as a different scale, and the two halves were thus correlated. A reliability coefficient of 0.85 was obtained. The questionnaire was given to the respondents and retrieved after completion to avoid a mixup. Consequently, 550 copies were completed and returned at 100% of the actual instrument. The statistical methods of A Pearson Product Moment Correlation (PPMC) analysis at a

0.05 level of significance was used to test the research hypotheses. For the hypothesis test, the researcher rejected the null hypothesis if the t-calculated value was equal to or greater than the t-tabulated value. In contrast, the researcher retained the null hypotheses if the t-calculated value was less than the t-tabulated value. Also, the researcher rejected the null hypothesis if the calculated p-value was equal to or less than the set p-value. In contrast, the researcher retained the null hypothesis if the calculated p-value was more significant than the set p-value.

7. Findings and Discussion

Research Question: What are the roles of environmental factors on the academic awareness of secondary school students toward digital learning tools in Ado-Ekiti?

Table 1: Environmental Factor on Academic Awareness of Student

	Frequency of Use of Digital Learning Tools	SA	A	D	SD	Mean	S.D
1	Do you think that your home environment affects your awareness of educational technology	111 20.2%	284 51.6%	96 17.5%	59 10.7%	2.350	.952
2	Students whose parents live in developed areas exhibit better academic awareness of learning tools than those whose parents live in an undeveloped area	97 17.6%	302 54.9%	102 18.5%	49 8.0%	3.183	1.054
3	Students can learn through digital learning tools during a chaotic times.	105 19.1%	320 58.2%	114 20.7%	11 2.0%	2.854	.765
4	My teacher has created awareness about digital learning tools to replace the role of the teacher in the classroom.	91 16.5%	214 38.9%	204 37.1%	41 7.5%	2.986	.976
5	My parent's location make me leave in a troublesome environment, which hindered my learning process	89 16.2%	277 50.4%	122 22.2%	62 11.3%	3.901	.964

As shown in Table 1, the data results present the student's perception of environmental factors' roles in secondary school students' academic awareness of digital learning tools in Ado-Ekiti. Findings showed that most of the students, 284 (51.6%), agreed with the statement. Do you think that your home environment affects your awareness of educational technology? In comparison, 96 (17.5%) disagreed with this statement. Also, 302 (54.9%) agreed with the statement that students whose parents live in developed areas exhibit better academic awareness of digital learning tools than those living in undeveloped regions.

In comparison, 102 (18.5%) respondents disagreed with this statement. In addition, 114 (20.7%) agreed with the statement that students could learn through digital learning tools during chaotic times, while 320 (58.2%) of the respondents disagreed. Furthermore, 204 (37.1%) agreed with the statement that my teacher has created awareness about digital learning tools to replace the role of the teacher in the classroom. In comparison, 214 (38.9%) respondents disagreed with this statement. More so, 277 (50.4%) agreed with the statement that my parents' location made me live in a troublesome environment, which hindered my learning process, while 122 (22.2%) of the respondents disagreed.

It could be inferred that most respondents agreed that environmental factors like terrorism, kidnapping, and ritual killing affect the academic awareness of students toward digital learning tools.

Inferential Analysis of the Hypotheses

The four research hypotheses were postulated in the study.

Ho1: Insignificant connections exist between digital learning tools and the academic awareness of secondary school students in Ado-Ekiti.

Table 2: Correlation matrix showing a significant relationship between Digital learning tools and academic awareness of secondary school students in Ado-Ekiti.

Variable	x	SD.	N	R	P	Remark
Digital Learning Tools	51.523	17.928				
			550	.698**	.000	Sig.
Academic Awareness	76.291	23.195				

** Sig. at .05 level

Table 2 shows a significant positive relationship between Digital learning Tools and academic awareness of secondary school students (r = .698**, N= 550, P < .05).Null hypothesis is rejected because the probability value of .000 is less than the 0.05 level of significance. Therefore, the result implies that Digital Learning Tools have a positive impact on the learning of students in secondary schools in Ado-Ekiti.

Ho2: There is no significant combined contribution between gender and digital learning tools in the chaotic environment of secondary school students in Ado-Ekiti.

Table 3: Correlation matrix showing a significant relationship between Gender and Digital Learning Tools in Chaotic Environment of Secondary Schools in Ado-Ekiti

Variable	X	SD.	N	R	P	Remark
Gender	48.291	11.297				
			550	.782**	.000	Sig.
Digital Learning Tools	71.028	28.123				

** Sig. at .05 level

Table 3 shows that a significant positive relationship exists between gender and digital learning tools for students (r = .782**, N= 550, P < .05). Null hypothesis is rejected because the probability value of .000 is less than the 0.05 level of significance. The result implies that the gender of students can influence awareness of Digital Learning Tools.

Ho3: There is no significant composition contribution to the socio-economic status of parents and students awareness of educational technology in Ado-Ekiti secondary schools.

Table 4: Correlation matrix showing a significant relationship between the socio-economic status of parents and students' awareness of educational technology

Variable	Mean	Std. Dev.	N	R	P	Remark
Socio-Economic Status	25.990	12.936				
			550	.811*	.000	Sig.
Awareness of Educational Technology	81.342	29.873				

* Sig. at .05 level

Table 4 shows that a significant relationship exists between the socio-economic status of parents and students awareness of educational technology, as shown in the correlation coefficient (r = .811*, N= 550, P < .05). Null hypothesis is rejected because the probability value of .000 is less than 0.05 level of significance. The result implies that the socio-economic status of parents can influence students' awareness of educational technology.

Ho4: There is no significant relative contribution to the lack of educational technology tools and learners' awareness in Ado-Ekiti secondary schools.

Table 5: Correlation matrix showing a significant relationship between Lack of Educational Technology and Learners' Awareness in Ado-Ekiti Secondary Schools

Variable	X	SD	N	R	P	Remark
Lack of educational technology	48.976	12.998	550	.976**	.000	Sig.
Learners' Awareness	91.774	31.845				

* Sig. at .05 level

Table 5 shows that there was a significant relationship between the lack of educational technology and learners' awareness in Ado-Ekiti secondary school results (r =.976**, N = 550, P .05). The null hypothesis is rejected because the probability value of 0.00 is less than the 0.05 level of significance. Therefore, the result implies a lack of educational technology can influence learners' awareness in Ado-Ekiti secondary schools.

8. Discussion of Findings

This study's main objective is to look into the dynamism of educational technology in raising learners' awareness in a chaotic time in Ado-Ekiti secondary schools. The statistical method of PPMC (Pearson Product Movement Correlation) is applied to analyze the research hypotheses.

The findings showed that awareness is one of the fundamental skills that everybody acknowledges as an essential tool for survival in acquiring knowledge in the present-day world. Particularly in this turbulent period, digital learning tools are the most suitable medium for transmitting information from one generation to another. Moreover, they offer a secure environment for students and teachers in which rapid, tailored feedback is given individually and collectively.

The results reported that learners are most inspired by educational technology, multimedia, and topics associated with science, the arts, mathematics, and education. Most students like educational games, animation, online collaborative groups, online quizzes, multimedia presentations, interactive images with music, sound, text, and discussion that complement academic lessons, photographs, and the collaboration of teachers on other topics when they are not in school.

Adeoye (2015) established that home conditions interfere with digital learning tools. In addition, some researchers discovered other factors such as the absence of adequately equipped schools, educational technology laboratories, and qualified technologists, the lack of online digital learning tools, the absence of educational agencies in the public domain at close locations to school and home, and the absence of encouragement from teachers to address the variables affecting the awareness of students.

Digital learning tools are the distinguishing proof of sharing information within a group of learners online or onsite, managing academic content efficiently and effectively, and providing less privilege to compete with others during learning. In addition, educational technology helps advance students' inspiration toward educational needs through audiovisual content (Yang, Pan, Zhou, & Huang, 2018).

The more the students share and watch the learning tools of their instructors, the more they need to attempt them. The more the students interact with the teachers, the more their awareness of the subject matter increases. Due to the current technological era, students spend most of their time playing games, watching television, and surfing the internet, leaving little time for digital learning tools and applications. According to Omae (2017), awareness is almost diminishing. The reason for this decline is the technological advancement that provides students with a replacement for learning time with specialized tools—also expressed concern that "technology badly affects the academic awareness of students. Smartphones, tablets, and the internet have taken over the learners, who prefer watching videos and

playing games instead of collaborating with their teachers virtually". Although technology has adverse effects, the teacher may use it during a chaotic period of epidemics, war, and terrorism to develop awareness skills in students. It is up to parents to monitor how their children use technology.

9. Conclusion

The improvement of awareness skills through the use of digital learning tools affects school quality. The first step in developing these skills is preparing teachers when they are enrolled in programs for teacher education. The secondary school program's adoption of digital learning tools provides insight into the various forms of online learning and their efficacy during the instructional process under unusual circumstances. The study showed that parents' socioeconomic status could influence their awareness of digital learning tools. The study emphasizes the value of digital learning technologies for managing academic content effectively and efficiently, sharing information among learners online or in person, and reducing the opportunity for competition when learning in a chaotic environment.

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