Awareness of Secondary School Students' Usage of Mobile Devices for Learning

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Abstract

This study was designed to justify the importance of student's readiness in resource utilization hence the study investigated senior secondary school students' level of awareness on the usage of mobile devices for learning purposes. It adopted the descriptive design. A sample of 375 senior school II students data were used. The instrument titled Questionnaire for Students' Awareness on Mobile Devices Usage for Instructional Purposes (QSAMDU) was developed with a reliability coefficient of 0.89. Data gathered were analyzed using standard deviation and meanwhile, the hypothesis was tested using the independent t-test. The findings revealed that students level of awareness for the use of the mobile device for learning was high and positive while showing that their level of awareness was not dependent on gender. The researchers, therefore, recommend that educators should classify their learners more accurately and adapt their teaching strategies to provide appropriate learning assistance to the learners as they engage meaningfully with their mobile devices.

1. Introduction

Present-day education has experienced a notable shift in teaching and learning processes from conventional technique to modern technique using new technology based tools like mobile and handheld devices. Mobile devices are portable and include Smart-phone, tablet, e-readers, Personal Digital Assistant (PDA's) with smart capability. A mobile device which is a word that comprises and never limited to Smartphone is the latest commercially available technology developed to serve numerous purposes just like conventional personal computers. The word "mobile" as used in "mobile learning" means two things fundamentally; learning mobility and devices mobility. The most important components which brought the possibility of mobile learning include innovation in mobile and digital technology and wireless network globally (Caudill, 2013). Mobile learning could be defined in different ways and usually referred to as using different names like m-learning, Handheld learning, personalized learning, bite-sized learning, etc.

Mobile learning which is an advanced form or extension form of e-learning is learning technique whereby wireless technology and smart devices constitute the major tools used in learning and impartation in education. These devices are currently dominating development and present different new opportunities which guide and improve learning in ways that are never imagined a few years back. Mobile devices presently have the functionality of the computer, DVD player, MP3 player, gaming system all wrapped in one smart device. They are learning tools with high potential in classrooms activities and outdoor learning with enhanced productivity. Huge number of learners today are having possession of Smartphone like android and iPhones.

Venkatesh, Chandrasekaran, Dhandapany, Palanisamy, and Sadagopan (2017) state that most students who access the internet do so through the mobile device.

It is obvious that our world presently has embraced everything digital since the internet was invented. In 2000, more than 361 million people were online. In 2014 over 3billion were online which represent a growth rate of over 764 per cent. Presently more than half of the world population is online. New information indicates that young people are leading the chart with 830 million young people which represent over 80 per cent of youth in 104 nations are online (International Telecommunication Union, 2017).

Based on the evidence sighted above, this paper measures student's awareness level as it relates to using mobile devices for instructional purposes. Schmldt (2002) perceived awareness as an integrated part of the practice. To other scholars it is seen as an attribute of action and practice developed systematically in our everyday life. Hence this study attempts to measure experience directly and beyond normal mind or perception which allows us to know consciously above what the mind could even understand or perceive.

1.1. Statement of the Problem

The youths today are influenced by mobile gadgets and virtually reside online. It is therefore imperative that their education based obligations be delivered to them at their space in time. It is also crucial to know that their level of readiness will go a long way to ensure effective integration during learning, hence this study seeks to investigate if students' level of awareness determines the usage of mobile devices for educational purposes as well as the influence of gender on their level of usage.

1.2. Aim and Objectives of the study

Specifically, this study intends to:
1. determine the level of educational awareness in the use of mobile devices for learning among secondary school students;
2. determine the extent to which gender influences the level of educational awareness in mobile devices usage for learning among secondary school students.

1.3. Research Questions

1) What is the level of educational awareness in mobile devices usage for learning among secondary school students?
2) What is the extent to which educational awareness level in mobile device usage for learning differs based on gender among secondary school students?

1.4. Hypotheses

Ho_1. The level of educational awareness in students' use of mobile devices for learning does not differ significantly based on gender

2. Methodology

The study adopted a descriptive survey design. The population consisted of 5,500 SS2 Computer Studies students in all 260 government approved private Secondary Schools in Obio-Akpor LGA, Rivers State. A sample of 375 SSS2 Computer studies students and seven schools were used. A simple random sampling technique which was done via balloting was adopted. An instrument used for data collection was the Questionnaire for Students' Awareness on Mobile Devices Usage for Instructional Purposes (QSAMDU) developed by researcher with a reliability coefficient of 0.89 using Cronbach Alpha method of internal consistency. The questionnaire was divided into 2 sections, which consisted of demographic data and questions drawn from the research objectives. The questionnaire was structured using 4-point Likert's scale assigned value 4, 3, 2 and 1 respectively. Section I gathered students' demographic data while Section II measured awareness of students on mobile devices usage for instructional purposes. The research questions were analyzed using mean and standard deviation while the hypothesis was tested with independent t-test.

Table 1 below is the sample distribution of the students from the different schools used for the study. A, B , C, D, E, F and G represent the different classes selected from the seven schools meaning in school 1, Class A consisted of 65 students with 28 males and 37 females, school 2 had 59 students, school 3 (65 students), school 4 (51 students), school 5(60 students), school 6(40 Students) and school 7(35 students) as shown in the table.

Table-1. Sample Distribution.

S/N	Schools	No. of SSII Computer Studies students	Males	Females
1	A	65	28	37
2	B	59	30	29
3	C	65	30	35
4	D	51	22	29
5	E	60	27	33
6	F	40	21	19
7	G	35	18	17
	Total	375	175	200

3. Results

3.1. Research Question 1

What is the level of educational awareness in mobile devices usage for learning among secondary school students?

Table 2 explained students' level of educational awareness in mobile devices usage for learning. Mean and standard were used to analyze 10 research items. Mean values more than 2. 5 were adjudged high level

Table-2. Mean and Standard Deviation of the level of educational awareness in mobile devices usage for learning among secondary school students.

S/N	Items	Mean	SD	Remark
1	I can use mobile devices to take photos of objects, places or events relevant to my school work.	3.55	0.83	High Level
2	I can use my mobile device to record and take class lesson delivered by the teacher.	3.25	1.15	High Level
3	I can access online libraries through my mobile device for relevant information on my school work.	3.70	0.75	High Level
4	I can interact with classmates on social media (such as facebook, whatsapp) to discuss while relating to my school work.	3.69	0.68	High Level
5	I can play educational games on my device.	3.61	0.78	High Level
6	I can use my mobile device to discuss group assignment and other school work with my class mates.	3.71	0.67	High Level
7	I can use twitter to enhance my learning experience.	3.12	1.07	High Level
8	I can use Instagram to share and view educational multimedia contents with friends.	3.23	0.98	High Level
9	I socialize and discuss school work with classmates and my teachers via Facebook.	3.24	1.03	High Level
10	I can upload and download educational videos using Youtube.	3.63	0.77	High Level
	Grand Mean	3.47		High Level

Source: Researchers Field work Analysis.

Table 2 showed an analysis of the level of educational awareness in mobile devices usage for learning among secondary school students. The table showed mean responses of students' in secondary school. Items with serial number 1,2,3,4,5,6,7,8,9,10 have their various mean values greater than criterion mean value of 2.5 and were significant as students showed a high level of educational awareness in mobile devices usage. The table had a grand mean of 3.47. This indicated that students have a high level of education awareness in mobile devices usage for learning.

Research Question 2

What is the extent to which level of education awareness in mobile devices usage for learning differs based on gender among secondary school students?

Table 3 explained the difference in students' level of educational awareness is using mobile devices for learning based on gender. Mean and standard were used to analyze 10 research items. Mean values greater than 2. 5 were adjudged high level.

Table 2 shown a difference in the level of education awareness in mobile device usage for learning based on gender. The table showed mean responses of male and female students in secondary school. Items with serial number 1,2,3,4,5,6,7,8,9,10 have their various mean values higher compare to criterion mean value of 2.5 and were significant as both sex students showed high-level educational awareness in mobile devices usage. The table had a grand mean of male students as 3.18 and the grand mean of female students as 3.77. This revealed that female students' level of education awareness in mobile device usage for learning is higher than male counterparts.

Hypothesis: The level of education awareness in student's mobile devices usage for learning does not differ significantly based on gender.

Table 4 shows differences in level of education awareness in student's mobile devices usage for learning based on gender. With degree of freedom 373 at 0.05 level of significant z-calculated value at 6.669 is greater than z-critical value 1.96. Therefore, null hypothesis is rejected. This means that level of education awareness in student's mobile devices usage for learning does differ significantly based on gender.

Table-3. Mean and Standard Deviation of extent to which level of education awareness in mobile devices usage for learning differ based on gender among secondary school students.

S/N	Items	Male		Female		
		Mean	SD	Mean	SD	Remark
1	I can use mobile devices to take photos of objects, places or events relevant to my school work.	3.31	0.90	3.80	0.68	High Level
2	I can use my mobile device to record and take class lesson delivered by the teacher.	2.81	1.24	3.69	0.85	High Level
3	I can access online libraries through my mobile device for relevant information on my school work.	3.60	0.80	3.80	0.68	High Level
4	I can interact with classmates on social media (egfacebook, whatsapp) to discuss while relating to my school work.	3.53	0.77	3.85	0.54	High Level
5	I can play educational games on my device.	3.41	0.84	3.81	0.65	High Level
6	I can use my mobile device to discuss group assignment and other school work with my class mates.	3.52	0.77	3.91	0.50	High Level
7	I can use twitter to enhance my learning experience.	2.57	1.05	3.66	0.78	High Level
8	I can use Instagram to share and view educational multimedia contents with friends.	2.81	0.97	3.66	0.79	High Level
9	I socialize and discuss school work with classmates and my teachers via Facebook.	2.84	1.11	3.63	0.76	High Level
10	I can upload and download educational videos using Youtube.	3.41	0.88	3.85	0.56	High Level
	Grand Mean	3.18		3.77		High Level

Source: Researchers Field work Analysis.

Table-4. T-test analysis of the level of education awareness in student's mobile devices usage for learning based on gender.

Gender	N	$\overline{X}$	SD	Df	P-vale	t-cal	t-cri	Remark
Male	175	3.18	0.87					
				373	0.001	6.669	1.96	Ho Rejected
Female	200	3.77						

P<0.05.

4. Discussion of Result

4.1. The Level of Education Awareness in Mobile Devices Usage for Learning

The findings show that the level of education awareness in mobile devices usage for learning among secondary school students is high Table 2. The result indicated that most students are aware that mobile device can be used to record and take class lesson delivered by their teacher, access online libraries through their mobile device for relevant information on my school work, interact with classmates on social media (eg facebook, WhatsApp) to discuss while relating to their schoolwork and to discuss group assignment and other school work with their classmates. In a nutshell, the results showed that most students are aware of educational mobile devices usage. These findings agree with Fakokunde (2017) who reported that majority of the respondents are aware of education mobile phone usage though, frequency of use for purpose of learning is not encouraging but there is a notable relationship between students' level of awareness and their mobile phone usage for learning.

4.2. Level of Education Awareness in Mobile Devices Usage for Learning amongst Secondary School Students Based on Gender

Table 3 showed the analysis of hypothesis on level of education awareness in mobile devices usage for teaching and learning amongst secondary school students based on gender. The hypothesis on level of education awareness in mobile devices usage for learning amongst secondary school students based on gender

is significant leading to rejection of null hypotheses. This indicated that the awareness level in mobile device usage between and male and female is significant and favored female students. The finding is consistent with Hilao and Wichadee (2017) who reported that a significant difference existed among males and females on how they used a mobile phone.

5. Conclusion

i. The advancement of mobile and wireless communication technologies has encouraged this study concerning mobile devices usage for instructional purposes or mobile learning. This development does not elude present-day learners; they have rather opened up learning possibilities that were unimagined a few years ago. However, mobile learning is yet to be adopted in our secondary schools. The concept and instructional issues surrounding mobile learning are still evolving.

ii. It is also necessary to say that there is a high educational awareness level among secondary school students in mobile devices usage for instructional purposes.

iii. The level of education awareness in students' mobile devices usage for learning does differ significantly based on gender.

6. Recommendations

From these findings, the researcher recommends as follows:

i. Government, curriculum planners, administrators and parents should have emphasized areas of needs to improve students' performance, thus an implementation of relevant (supportive) emerging trends in learning (mobile learning) while putting proper regulations in place to guide the use of this mobile devices.

ii. Educators should classify their learners more accurately and adapt their teaching strategies accordingly to provide appropriate learning assistance to the learners.

iii. Students should continue to ensure that these mobile devices engage them academically and purposefully.

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