

**UTILIZATION OF MOBILE DEVICES IN LEARNING TO ENHANCE
ACADEMIC ACHIEVEMENT OF VOCATIONAL AND TECHNICAL EDUCATION
STUDENTS**

Dr. Eze, B.N. and Asogwa E.C

Blessingngozi.eze@unn.edu.ng Chinonye.asogwa@unn.edu.ng

**Department of Computer and Robotics Education
University of Nigeria, Nsukka**

ABSTRACT

Utilization of mobile devices in learning to enhance academic achievements of the vocational and technical Education students is very important for the academic success of the students. This study aims at determining the extent of utilization of the mobile devices in learning to enhance academic achievement of the vocational and technical Education students. To achieve the purpose of the study, three research questions were developed and answered by the study. The research design adopted for the study was descriptive survey. 53 items structured questionnaire was developed and used for data collection. The developed instruments were subjected to face validation after which the final copies were given to the respondents. The consistency of the instruments was determined using Cronbach alpha reliability coefficient and a reliability coefficient 0.70 was obtained. The data collected were analyzed using mean, standard deviation and analysis of variance (ANOVA). The study found the utilization of mobile phone in very high extent on three items, high extent on four items and low extent on four items on enhancing the academic achievement of the students. Utilization of calculator in very high extent on three items. It was found that students utilized mobile phone to read and download lecture material to a very high extent. Conclusion was given and recommendations also were made that students should be given good orientation on the utilization of mobile devices to enhance their academic achievement.

Key words: Mobile device, students, academic achievement, Utilization, enhancement.

Introduction

The development in mobile device has revolutionized teaching and learning. Mobile device is an electronic device which its users can easily carry about due to the mobility and portability. It is an ICT gadget that helps in communication. According to Imasuen, Omorogbo and Isenalume (2016) "ICT has the potential to accelerate, enrich, and deepen skills, motivate and engage students in learning, create economic viability, strengthen teaching and provide

Eze, B.N.; Asogwa, E.C.

Copyright © 2024 JOCRE. All rights reserved (<https://www.jocre.com.ng>)

connection between schools and the world”. Mobile device works with battery instead of electrical wires. It has capacities of accepting, processing, storing and displaying data and information. These mobile devices help a lot in almost all the aspect of human Endeavour. Currently, the world is experiencing technological development through the use of mobile devices which is the ICT gadgets.

In this technological era, educational system is moving from traditional method of teaching and learning to the modern method which involves the use of technologies to an extent that instructional materials used in school now for teaching and learning are mostly mobile devices such as tablet, Smartphone, laptops, eBooks readers etc. though, some teachers are still using their obsolete knowledge and skills. According to Anyakoha (2013, p.7) “Many depend solely on their old teachers notes”. Students are supposed to make use of mobile devices to learn new things instead of using an obsolete note from their formal teachers. The purpose of using these mobile devices is to increase the students learning outcome and also to enhance the students overall educational performance. The university students use mobile devices for taking notes, e-mail, searching for information, answering questions, communication, filling forms online, checking results and also for registrations. Awake (2017, p 3) also add “text messages, online social network, chat rooms, there has never been a time when the meaning of communication were so numerous and easy to come by”. The arrival of mobile devices and their uses are indeed great technological breakthroughs in the annals of transition of students learning. According to Hakoma and Hakoyuma, (2017) there has been quite numerous amount of

popularity of mobile devices in the young generation within short span of time. Mobile devices create a big impact on the students learning.

Students are the receivers of organized knowledge. For the students to acquire knowledge there must be an approach to the learning. They cannot just learn without following the principles or approaches of learning. Learning can take place in a group or in an individual. There must be interaction between the learners and the learning materials. According to social learning theory, (2008, p. 5). Social approach for learning emphasizes that “people learn from one and another through observation, limitation and modelling”. For a student to acquire knowledge, the prior knowledge has to be considered. It can help or hinder the new knowledge if care is not taken. For the Students learning with mobile devices, they should know how to filter and interpret what they are learning because if their prior knowledge is robust, accurate and activated at the appropriate time, it provides a strong foundation for building new knowledge but if in a situation where their prior knowledge is inert, insufficient for learning, it can interfere or impede the new knowledge.

Student’s use of mobile devices to learn has to be guided by the teacher because how the students organizes their knowledge influences how they learn and how they apply what they learnt. It helps the students to learn on their own but the knowledge has to be organized and applied appropriately (Hudson, 2019). In order for a student to use mobile devices in learning, they have to develop mastery, acquire component skills, practice integrating them and know when to apply what they have learned. Student can be a self-directed learner, but they must learn how to monitor and adjust their approaches to learning especially when they are using mobile

devices for their private learning. They also need feedback to know if the objectives of the learning have been achieved (Rennigner, 2019). According to Hudson (2019) differentiated formative assessments can be used to provide feedback for both the teacher and the learner for better teaching and learning. Interactions between the teachers and the students give the teacher better feedback about their learning.

Learning with these mobile devices have gone a long way to help in the students learning but there are many barriers to the student's approach to these mobile devices which needs to be tackled because the effects they have on their learning participation (Rennigner, 2019) Sheopuri and Sheopurl (2014) showed that cell phone usage is so strongly integrated into young people's behaviors that symptom of behavioral addiction such as cell phone usage interrupting their activities. The use mobile devices for learning has great impact on the academic achievements of the students and for this reason, more emphasis need to be made to encourage students to use them for learning.

Academic achievement is the extent to which students, teachers or institution has achieved their short or long term educational goal. It refers to what the students have learned or what skills the student has learned and is usually measured through assessments. It is also the measurable behaviors in a standardized series of test. There is a possibility of potential disruption arising whenever the use of mobile devices for learning are introduced in the academic environment. Sung and Mayer (2010) suggest that mobile technology itself is not sufficient to the increase in students learning, rather it is the method of delivery that is significant. Instructors in this modern time use mobile devices to engage and encourage students to learn which will

increase their interest and participations of the students in learning. Huang, Lin and Cheng (2019) found that incorporating mobile devices into an elementary botany class significantly impacted students disposition, including more positive perception towards activities when using mobile devices.

Utilization is the primary method by which asset performance is measured and success determined. Amali (2015) defines utilization as the process of using objects to improve educational practice. It is an act of making practical and effective use of something. There is no doubt that mobile devices are important to the university students learning but anything that is helpful can also be harmful. Baran (2015, p.272) argues that technology is a double –edge swords its power for good and for bad resides in us”. These mobile devices have effects on the students learning due to the way they use it for learning. There is also a captivation with responding to or sending text messages, talking on cell phone or using the other forms of mobile devices and headphone in education in our world today. Preoccupied and distracted pedestrians have become common on busy schools and campuses. According to Junco (2012) there have also been negative consequences from the introduction of modern technology in the classroom but the same mobile devices are the back bone for the academic achievement. In this our modern age, I don’t think we can do without the mobile devices because it makes everything very easy.

These mobile devices are being use whole over the world for learning. Endrizzi, (2012) states that in recent years, information and communication technologies (ICT) have been gaining significant ground, not just in the day-to-day lives of the young and not- not-young but also at school many believe that they are the future of education in our societies. These mobile devices

Eze, B.N.; Asogwa, E.C. Copyright © 2024 JOCRE. All rights reserved (<https://www.jocre.com.ng>)

impose power on them to use it in the classroom even when the teacher is teaching. Chu (2014) argued that the performance of the students known to be “effective” might be disappointing or may even negatively affect the students learning achievements without proper treatments employed. The issue of mobile devices is the way these students utilize them for learning not that the use is of no help. If the students can make proper utilization of the mobile devices, it will go a long way to enhance their academic achievement. Micheal (2017) views the potential growth of technologies as an alarming societal shift, equaled only by the main challenges of the use of mobile device inventions of writing, against which Socrates strenuously warned us or perhaps Gutenberg’s printing press.

There is a need for proper understandings and exploring how we might use these mobile devices to support learning. The main problem is how much sense does it make to continue to exclude from schools, powerful technologies that are seen helpful and as a normal part of everyday life? Dutta and Bilbo-Osorio (2016) decision makers also see in technologies and with good reasons, a solution for improving students’ performance. Many students have these mobile devices but some of them don’t use them for their learning instead they use it for pleasures. There is no how the students of this generation will achieve academic excellent without connecting to information online with their mobile devices. Learning is so easy and mobile now with the utilization of mobile devices. Thibert (2015) sees new ways of learning for young people, notably owing to a permanent connection to the internet. Many people don’t consult manual textbook or visit physical library any more, they focus on the online research using their mobile devices. Livingstone (2012), state that technologies have transformed society from top to

bottom, and particularly in terms of education and what the public expects educational system to deliver.

Enhancement is the process of a change. It is to improve the value of a service. Enhancing an existing experience or knowledge of the student is very important. Mobile devices play a big role in changing the way students learn, it makes learning easy and mobile. Students can now learn at their pace and also at their comfortable zones.

Statements of the Problem

Mobile communication devices have provided people with ability to do many things without much stress. It helps in accessing information online, chatting, sending and receiving information and other things. Many people have written on these benefits of mobile devices on improving the academic achievement of the students but have not think of the extent students utilize those mobile devices in the school for their academic achievement. It is very clear that anything that has advantage also has disadvantage. These mobile devices are constantly being improved by expanding their functionalities which is now in control of the students learning. There is a need for further research to find out the extent students utilize those mobile devices to enhance their academic achievement.

PURPOSE OF THE STUDY

The main purpose of the study is to determine the effects of mobile devices on the academic achievements of students. Specifically, the study sought to :

- 1 Find out the extent students utilize mobile phone to enhance their academic achievement

Eze, B.N.; Asogwa, E.C.

Copyright © 2024 JOCRE. All rights reserved (<https://www.jocre.com.ng>)

- 2 Determine the extent students utilize calculator to enhance their academic achievement
- 3 Find out the extent students utilize iPad to enhance their academic achievement

RESEARCH QUESTIONS

This study answers the following research questions

1. To what extent do the students utilize mobile phone to enhance their academic achievement?
2. To what extent do the students utilize calculator to enhance their academic achievement?
3. To what extent do the students utilize iPad to enhance their academic achievement?

METHODOLOGY

The study adopted the descriptive survey research design because it is the design which the data are collected from relatively large number of people and it also helps to gather information from subjects on utilization of mobile devices to enhance academic achievements of the students. Emaikwu (2011) asserts that it assesses opinion from representative group of population being investigated. It is appropriate for this study since questionnaire were developed and utilized for data collection. The study was carried out in the faculty of vocational and technical education, university of Nigeria, Nsukka which is made up of five departments. Students in the faculty uses mobile devices a lot for their studies and that is why the faculty is suitable for carrying out this study. The population of the study is all the 113 second year students in the faculty of vocational and technical education, university of Nigeria Nsukka, 23 students from agric departments, 13 students from business departments, 34 students from computer departments, 32 students from home economics and 11 students from industrial tech department. The total respondents were 113 students. There was no sample as all the second year

students were used. The data was collected using 28 items structured questionnaire constructed from review of literature and was divided into three parts based on the effects of mobile devices on the academic achievements of the students. The responses scale of the item were based on the 4 points rating scale of Very high extent, High extent, Very low extent, Low extent, with their responding value of 4,3,2 and 1 respectively. The Normal values were assigned to each response and real limits of numbers were used in interpretation of the mean scores, as follows:

Nominal value	Real limit	Mode of response
4	3.50-4.49	Very high extent
3	2.50-3.49	High extent
2	1.50-2.49	Low extent
1	0.50-1.49	Very Low extent

The instruments for data collection were subjected to face validation after which the final copies were given to the respondents. The consistency of the instruments was determined using Cronbach alpha reliability co efficiency. The reliability coefficient of 0.701 was obtained. The instruments were administered by the researcher to the respondents. The data collected were analyzed using mean and standard deviation to answer the research question. Items with mean score rage of 3.50 – 4.49 is regarded as very high extent, 2.50 – 3.49 is high extent, 1.50 – 2.49 is low extent and 0.50 – 1.49 is very low extent.

RESULTS

Research question 1: To what extent do the students utilize mobile phone to enhance their academic achievement?

TABLE 1: Mean rating of responses on the student's utilization of mobile phone to enhance their academic achievement.

S/N	ITEMS	\bar{x}	SD	DECESION
1	send mail	2.92	0.76	HE
2	type documented	2.34	0.74	LE
3	research online	3.13	1.01	VHE
4	Register courses online	3.05	0.86	VHE
5	online group discussion	3.04	1.06	VHE
6	submit assignment online	2.25	0.91	LE
7	pay school fees online	2.87	3.11	HE
8	read and download lecture materials	3.49	0.61	VHE
9	access online libraries	2.82	0.77	HE
10	write examination	1.99	0.89	LE
11	taking note	1.87	1.03	LE

Data in the table 1 shows that 4 items had their mean ranged from 3.50 - 4.49. This indicates that mobile phone are utilized in very high extent to research online, register courses online, online group discussion, and download and read lecture material. The table also shows that 3 items had their mean ranged from 2.50-3.49. It also indicates that mobile phone is utilized in high extent to send mail, access online libraries, pay school fees online. Another group of items which are 4 in number had their mean range from 1.50-1.49 which indicates that mobile phone is utilize in low extent to take note, write examination, submit assignment and type documents. The standard deviation of all the 11 items ranged from 0.614 to 3.109 indicating that the respondents were not too far from mean and from one another in their responses. This result shows that they have similar opinion on the extents of mobile phone utilization on enhancing their academic achievement.

Research question 2

To what extent do the students use calculator to enhance their academic achievement?

Table 2: Mean rating, standard deviation of the responses on the use calculator to enhance their academic achievement

S/N	ITEMS	\bar{x}	SD	DECISION
1	Simple arithmetic's	3.43	0.99	HE
2	to check time	3.76	0.57	VHE
3	learning timetable	3.21	0.85	HE
4	exploring and practice number pattern	3.11	0.79	HE
5	support skip counting	3.58	0.62	VHE
6	for approximation and estimation	3.50	0.73	VHE
7	checking results using inverses and interpreting decimal	3.39	0.80	HE
8	teaching mental calculation strategies	3.42	0.83	HE
9	learning number and number system	3.44	0.82	HE
10	for long division	2.90	1.02	HE

Data in the table 2 shows that 3 items had their mean ranged from 3.50 - 3.76. This indicates that calculators are utilized in very high extent to check time, support skip counting and for approximation and estimation. The table also shows that 7 items had their mean ranged from 2.90-3.44. It also indicates that calculators are utilized in high extent for long division, learning number and number system, teaching mental calculation strategies, checking result using inverses and interpreting decimal, exploring and practice number pattern and learning timetable. The standard deviation of all the 10 items ranged from 0.571 to 1.017 indicating that the respondents were not too far from mean and from one another in their responses. This result

shows that they have similar opinion on the extents of calculator utilization on enhancing their academic achievement.

Research question 3

To what extent do the students utilize iPad to enhance their academic achievement?

Table 3 Mean rating and standard deviation of the respondents on the use iPad to enhance their academic achievement

S/N	ITEMS	\bar{x}	SD	DECESION
1	Electronic textbook	3.37	0.89	HE
2	For making notes	3.26	0.96	HE
3	For dictionary	2.96	0.97	HE
4	Word processing	3.16	0.92	HE
5	For Instagram for photo sharing	2.71	1.01	HE
6	sending e-mail	3.19	0.99	HE
7	multi-media application keynote	3.31	0.89	HE
8	for online registration	3.21	0.99	HE
9	downloading materials	2.90	0.86	HE
10	checking results	2.79	0.86	HE

Data in the table 3 shows that all the items had their mean ranged from 2.70 - 3.37. This indicates that iPad are utilize in high extent for checking results, downloading materials, online registrations, sending e-mail and among others. The standard deviation of all the 10 items ranged from 0.860 to 1.014 indicating that the respondents were not too far from mean and from one another in their responses. This result shows that they have similar opinion on the extents of iPad utilization on enhancing their academic achievement.

Discussions and Findings

Findings from this study shows that mobile phone, laptop, iPad which among the mobile devices are utilized in very high extent for sending mail, research online, register online courses, downloading materials online, online group discussion and among others while mobile devices like calculator is utilized in high extent for simple arithmetic's, checking time, learning time table and among others. Supporting this findings Baran (2015) found out that parents often have more sense of security when their children travel independently outside their home along with their mobile phone. They are concern about it because children are not utilizing it in a proper form, instead of using it for learning they are using mobile phone for pleasure and other entertainments. This is also in line with imasuen et al (2016) who state that most Nigeria universities, colleges of education and polytechnics are not competent in the utilization or integration of their ICT in their instruction. The utilization of mobile phone for learning is very important for academic improvements of the student; therefore, students need to be guide and motivated to utilize their mobile phone properly for learning. This was in agreement with findings of khaddage (2013) state that iPad has captured over 75% of the education market worldwide. It indicates the extent of I pad utilization in education. Most of our lecturers and the students are now focusing more on the use of iPad due to its portability. The findings are also in line with the work of Huber (2012) who proposes that the iPad allows viewing the entire contents of the school curricula, and nothing less. This lays emphasis on the important of utilizing iPad for learning. Ako (2009) also asserted that the use of mobile phone has really improved academic challenges in recent time.

Conclusion

The findings of the study showed the extent of utilization of mobile devices such as mobile phone, calculator, iPad, laptop and computer. Devices mentioned are utilized and it showed high extent of utilization. For the success of the students' utilization to mobile devices for enhancement of their academic achievement, there must be a good orientation on how to use it effectively for academic success. If all the mobile devices are utilized at least in high extent, they will go a long way in enhancing the academic achievements of the students.

Recommendation

Based on the findings, the researchers considered the following recommendation worthwhile for the study.

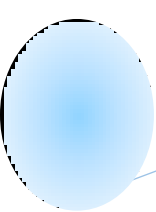
1. It is recommended that Government should train teachers on how to give the students orientation on the utilization of mobile devices
2. Schools should develop strategies that checkmate the use of mobile devices in the school.
3. Government in collaboration with the schools should organize workshop for the students based on the issue of misuse of mobile devices for learning
4. Parents also should monitor their children usage of mobile devices.
5. Models for utilization of mobile devices for university students learning should be developed.

6. Assessments of mobile devices are necessary to know the one suited to the learning tasks.
7. Government and institutions should discover and adopted mobile devices suitable applications that match the needs of the students learning and map it directly to the school curriculum needs.
8. Governments and schools may need to set clear guideline or policies as to overcome these issues of misuse of mobile devices for learning. Careful planning is needed.
9. Examination of the advantages and disadvantages of each mobile device should be done before making a decision on which one to use for learning.

REFERENCES

- Anyakaoha, E.U (2013) *positioning vocational and technical education on the vanguard of sustainable*. Key note address presented at the maiden national conference of school of vocational education .FCE (T) Asaba, delta state. On “vocational and technical education for sustainable economic and national development 14th-17th may. Awaka (2010:3) loneliness: how can you cope?
- Ako, B. (2009). *Mobile phones for development and profit. A win-win scenario*. Overseas Development institute P.2
- Baron, S.J. (2015) *Introduction to mass communication: media literacy and culture* (6th ed) new York: McGraw. Hall.
- Bakker, P. & Sadaba, C. (2009). *The impact of the internet on users*.
- Chu, H.C. (2014) potential negative effects of mobile learning on the students learning achievements and cognitive load-A format assessment perspectives. *Educational technology & society*, 17(1), 332-344.
- Dutta, S. & Bilbo -Osorio, B. (2016). *Global information technology report 2012*.

- Emaikwu, E. (2011) Fundamentals of research methods and statistics makudi selfers academic press. *International institute for sustainable development IISD (2011)*. Sustainable development. Retrieved from www.en.wikipedia.org on 10th march 2015.
- Endrizzi, L. (2012). *Jeuresses 2.0: Les pratiques relationnelles au Coeur des media sociaux*. Dossier d actualite velles et analyses, 71.
- Haridakis. & Handson,. G.(2019). "Social interaction and co-viewing with you tube. Blending mass communication reception and social connection." *Journal of Broad casting and electronic media*, vol 5(2).317-335.
- Hakoama M., Hakoyama .S .(2017). The impact of cell phone use on social networking and development among college students. *The American association of behavioral and social sciences journal*. 15(5), 1-20
- Imasuen, omorogbo and isenalume. P.O. (2016). *Integrating information and communication technology (ICT) Resources in teacher Education*. programme for national Development. In olubor, R.O. oketete, S.O & Adeyanya, F (Ed) Resources management in university of Benin. Benin city.
- Laskewicz, Z. (2008) *the impact of television and internet: we are constructed by socially instituted technologies or is technological determination itself a construction*.
- Livingstone, S. (2012). Critical reflection on the benefits of ICT in education. *Oxford Review of education*, 38(1), 9-24.
- McQual C.D. (2010). *McQuail's mass communication theory (6th ed)*.
- Proffit, B. (2010). *Take your iPad to work*. Boston, MA: course technology press.
- Sheopurl, A. (2014) Dark shade of Smartphone. Baron to bane. *International journal of business Quantitative Economics applied management research*, 1 (7), 19-30.
- Srivastava .A, Tiwarl R.P. (2013) effect of excess use of cell phone on Adolescents mental health and quality of life. *International multidisciplinary e-journal*. 8(7), 9-18
- Serres, M. (2017). *Petite poucett paries*, france: Le pommier.
- Thibert, R. (2015). *Pedagogie+.numerique=apprentissage 2.0* Dossier actualite reille et analysis, 79
- Wimmer, J.M. (2011). Internet privacy costs of user- generated content. In *global media journal*. 9(11), 1-12



Zafar, I. (2010). Gender differences in mobile phone use: what communication motive does it gratify? *European journal of scientific research*.