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USE AND APPLICATION OF CELLPHONE AND EFFECT ON UNDERGRADUATE ACHIEVEMENT IN TERTIARY INSTITUTIONS IN ENUGU STATE

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ABSTRACT
This study was carried out under full sponsorship of the Tertiary Education Trust Fund (TETFund). The study examined the use and applications of cellphone among undergraduates and its effects on students' achievements. The study researchers' adopted stratical descriptive survey to pick 387 student from 8 higher institutions in Enugu State. Self-constructed questionnaire titled use and application of cellphone and effect on achievement (UAACEOA) was used to elicit information. Two research questions and two hypotheses were employed. The chi-square statistics was also used to test the hypotheses. The hypotheses one was rejected, that the use and application of cellphone significantly affects undergraduate achievement. The second hypothesis was also rejected Ho and upheld the alternative, that cellphone usage and application does significance influence and examine undergraduate skills in communication. The results were discussed.

Keywords: Application, Cellphone, Undergraduate achievement, Tertiary Institutions

Introduction

Learning and communication are becoming increasingly mobile, and the advent of Web 2.0 technologies is actively dissolving the boundaries between "educational" and "real world technologies." The use of technology is a global imperative due to its contributions to human existence and has enhanced the socio economic relations globally. Wireless communication has emerged as one of the fastest diffusing media on the planet, fuelling an emergent "mobile youth culture" (Castells, Fernandez-Ardevol, Qiu, and Sey, 2017). Thus, increased popularity of cell and smart phones in recent years has attracted research attention. Cell phones are seen as a

mixed blessing. Teens say phones make their lives safer and more convenient. Yet they also cite new tensions connected to cell phone use (Pew Research Center, 2010). The relationship between users of modern technologies and educational institutions is going through fundamental changes, and it becomes harder on the institutional level to ignore the impetus from the outside world. This is especially true of cell phones, which are used on a daily basis by more than a third of the world's population. The largest proportion of users is young people, for whom SMS exchanges are the preferable way of interaction. Schools, however, are still struggling with this most common way of communication of their clients. Though many teachers have worked cellular phones and text messaging into their curriculum, by and large, electronic mobile devices remain excluded from formal education.

Nowadays, 6 million people own a mobile phone and have Internet access, which could have a direct helpful impact on education (Mark 2012). As a professional lecturer, I have been observing such changes with anxiety and caution not excluding the possibility of technology surmounting our students, children, and all of us. Bearing in mind the aims of education, I would argue that purposeful use of technical innovations and possibilities would enhance efficiency, since whether one likes it or not the entire world has become mobile.

Today's mobile communication is an everyday reality in the lives of learners and it will increasingly be true in the future, thus sooner or later it is going to grow into a generally accepted learning tool as video, computer, or Internet had once become. The capacity of contemporary phones are not lagging behind the processing power of personal computers, can be carried in a pocket, and can provide access to various sources of information and data worldwide. This obvious advantage carries huge potentials that are exploitable for the benefit of education (Naismith 2014). Mobile phones as educative tools have been sentenced to prejudice and resistance through the entire society around the world including Nigeria tertiary Institutions. Even educators and the Ministry of Education regard this innovative technology with certain contempt while struggling to include it into the long established methodological solutions as an alternative. Such a possibility should be taken into consideration, since never has a technological advancement in its entire history been so available to civil societies as mobile communication (Kismihok 2017). We should live with the opportunity, even though we are a small and poor country, we have been given the possibility of introducing mobile devices in education that would not cost a penny for the Ministry of Education, since learners have already gained access to apply such a technology (Kismihok 2017).

Academic achievement or performance is the outcome of education; the extent to which a student, teacher or institution has achieved their educational goals (Von Stumm and Chamorro-Premuzic, 2011). Academic performance according to the Cambridge University Report (2003) is frequently defined in terms of examination performance. As cell phone technology

continues its rapid development, the device appears capable of contributing to student learning and improved academic performance. For example, modern "smartphones" provide students with immediate, portable access to many of the same education-enhancing capabilities as an Internet-connected computer, such as online information retrieval, file sharing, and interacting with professors and fellow students (Bull & McCormick, 2012; Tao &Yeh, 2013). Conversely, recent research suggests that many college students perceive the cell phone primarily as a leisure device, and most commonly use cell phones for social networking, surfing the Internet, watching videos, and playing games (Lepp, Li, & Barkley, 2015; Lepp, Barkley, Sanders, Rebold, & Gates, 2013). If typically utilized for leisure rather than education, then cell phones may disrupt learning within academic settings (Levine, Waite, & Bowman, 2017). Thus, the potential relationship between cell phone use and academic performance is not clear

This study therefore seek to know the use and application of cellular phones in the tertiary institutions and its effects on academic achievement of undergraduates in Enugu state. This area of interest was chosen because of the unregulated usage and over dependent attitude on these devices. Interestingly, this is obviously imperative as Geser, (2016) and Junco, Merson and Salter (2010) had observed that the youth have consistently displayed higher level of attachment to their cell phones which could serve as distractions to them because of the time channeled to the phones.

Statement of the Problem

The invention of technology such as mobile phones has, no doubt, brought about immense positive progress to human societies, but this invention equally brought in its wake some observed attitudinal problems among tertiary students. This mainly manifests among the undergraduate university students, who use internet enabled phones. However, this is not to say that these problems are solely caused by the usage of these phones as there are other causes, but that the attitudes of the users and the modes of the usages are significantly the contributing factors especially in the 21st century. Scholars have identified the problems associated with phone usage and time (Junco, Merson and Salter, 2010; Wei and Lo, 2006), the attachment to phones (Gaser, 2006), in the face of this, therefore, there is the need to establish the link between these observations and academic performance. In analyzing the problem of these internet phones, and in order to synchronize and have a clearer understanding of the problem as it is related to this study, it must be borne in mind that other varying platforms of distractions towards the academic performance of the undergraduate students in the university are also implicated, such as the computer usages, which generate internet social sites, and the visual display devices for relaxation such as televisions. An area where this problem can be seen is in the aspect of non-verbal communication in the students' writings often fraught with acronyms developed for chatting purposes, and the use of abbreviations to shorten the length of the write-ups. In addition to this,

there is high tendency and/or temptation of the students to interact with their phone in the class in the course of lectures, either to respond to received messages, or to browse the internet. These, no doubt, take heavy toll on the level of concentration devoted to the lectures. Even while outside the class room environment, most students who use internet enabled phones devote much time interacting with their phones by chatting on the Twitter, 2go, Facebook, instant messages (Bbm, Yahoo messenger). Consequently, the time that ought to have been devoted to study and other useful academic endeavours are thus frittered away.

In the light of this problem and in locating the root cause of the relationship between the undergraduate use of internet phones on their academic performance, it is pertinent and imperative to carry out a study of this kind, in which a sizeable number of undergraduate students were engaged.

Research Questions

The following research questions will guide the research work:

1. To what extent does the use and application of cell phones help students learning and academic achievement?

2. To what extent does the use and application of cell phones improve the students' communication and learning?

Research Method

This is a survey study. According to Ezeani (2011), a survey research design is the collection of sample, attitudes, performance or feelings in order to estimate the total or overall reaction of an entire group. In other words, survey research design is a method of studying a group of people by collecting information from a few regarded to be the representation of the entire group. The study was carried out in tertiary institutions in Enugu state. Enugu state is among the 36 states that made up federal republic of Nigeria and is located in the South East geopolitical zone of Nigeria. There are one federal university and one state university, five polytechnics and many colleges of education. The people in this area are Igbo speaking. They cherish education and trading the most. The population of the study comprised of 17000, (source: 2016/2017 annual census school report of Enugu state) final year students in the eight (8) higher institutions in Enugu urban in Enugu state namely: Evangel University, Godfrey Okoye University, Caritas University, Federal School of Dental Technology, Institute of Ecumenical education thinkers corner, Enugu State College of Education (Technical) Enugu, National Open University of Nigeria Enugu Study Centre, Institute of management and technology Enugu, Peace land college of education Enugu and Coal City University, Emene Enugu. The sample size for the study is 400 persons/students which was derived using Yaro Yamane (1964) statistical formular. The researcher first selected 40 final year students each from the eight schools in the study area using simple random sampling techniques.

Thus $n=\frac{N}{1 + N (e^2)}$

Where n=sample size

N = Population size
e = Margin of tolerable size

Questionnaire was the instrument used for data collection for the study. It was structured based on the research questions which guided the study. It contained two parts; the part A was for personal data of the respondents and part B contained the questionnaire items. The questionnaire was structured using four point rating scale of: Strongly Agreed, Agreed, Disagreed, and Strongly Disagreed. The questionnaire items were face-validated by experts comprising three, lecturers one from UNN and two from of Enugu State College of Education (Technical), Enugu, one from Measurement and Evaluation and two from School of Education. The language, content and structure of the items were critically examined and possible corrections made, from their inputs. Their inputs helped form the corrected questionnaire employed in carrying out the research. Test-retest method was used to determine the reliability of the instrument. The instrument was distributed to 40 final year students in Peaceland College of Education, Enugu. After a week interval, the instruments were re-administered to the same 40 students. The initial test and re-test scores were computed using Person Product Moment Correlation Co-efficient. The reliability obtained was 0.80 Therefore the instrument reliability is high enough for the study. The researchers distributed 400 questionnaires directly to the respondents and collected all of them back two days later after they have been filled to ensure optimum return of the instrument. The respondents returned their questionnaires 98%. Mean statistics and frequency was used to determine the scaling statement in the questionnaire. Nominal values were assigned to different scaling statement as follow:

Strongly Agreed ---------4
Agreed----------3
Disagreed ----------2
Strongly Disagreed - -1
A cut-off was determined by finding the mean of the nominal values assigned to the options in each questionnaire items using the formula;

$$\bar{X} = \frac{\Sigma X}{N}$$

Where $\bar{X}$ – Mean
X – The score
N - Number of the items

$$\frac{4+3+2+1}{4} \quad \frac{10}{4} = 2.5$$

Thus, the mean x ≅ 2.5

As a rule, the null hypothesis is not rejected if the calculated value is equal or greater than the table value while when the calculated value is less than the table value, the null hypotheses is accepted.

Data presentation and analysis
Research Question: To what extent does the use and application of cell phone affect tertiary students' achievement?

Table 1; Respondents response on use and application of cell phone and academic achievement

Items	Nos of respondents very high extent	No of respondents high extent	No of respondents low extent	No of respondents very low extent	Total
1	44	112	116	92	364
	65	122	110	92	389
2					
3	45	188	109	38	385
4	38	232	100	25	295
5	56	285	32	-	373
Total	248	939	467	24,7	1807
Mean	49.60	191.80	93.48	49.40	385.40
Percentage	12.86	49.76	24.25	12.78	99.65

In table 1 above, the very high extent group had a mean score of 49.60 representing 12.6 percentage; the high extent had a mean score of 191.80 with 49.76%. The low extent had mean score of 93.48 with 24.25% and very low extent had mean of 49.40 and a percentage of 12.78

Hypothesis one: HO: Cell phone usage and application does not significantly affects students' achievement.

S/N	VHE	HE	LE	VLE	TOTAL
1	45 (50.6)	11 (1475)	116 (108.7)	92 (97.2)	365
2	65 (52.1)	122 (152)	110 (95,5)	92 (97.2)	389
3	45 (44.5)	188 (129.7)	109 (11.9)	38 (44.5)	380
4	38 (44.5)	232 (132.7)	100 (95.5)	25 (32.5)	295
5	56 (44.5)	285 (32,7)	32 (44.5)	-	373
TOTAL	**249**	**939**	**46.7**	**247**	

HO_2: Use and application of cell phone does not significantly affects communication skills of students

S/N	VHE	HE	VLE	LE	TOTAL
1	65(45.33)	138(134)	64(55,67)	87(86.67)	355
2	59(45.33)	138(134)	84(55.67)	109(86.67)	390
3	84(45.33)	141(134)	57(55.67)	98(86.67)	373

4	80(45.33)	100(134)	80(55.67)	86(86.67)	346
5	80(43.33)	133(134)	87(55.67)	80(86.67)	386
TOTAL	**368**	**650**	**372**	**460**	**1850**

Decision Rule: If X^2 Cal $>X^2$critical value the HO, Rejected
Conclusion: HO rejected hence use and application of cellphone significantly determines students' success in academic achievement in tertiary institution.

We reject HO and upheld the alternation
Conclusion: Cell phone usage and application does significantly influence and determine skills in communication.

Discussion of Findings

The research question one was on the use and application of cell phone and academic achievement of students. It was found that the use and application of cell phone increased the study habit of students, makes students to develop high participating ability, aids students in class participation, increases teacher students relationship in the classroom activities, gives room for problem. The findings is in line with that findings by Jung (2014) that one of the usefulness of smartphones is the ability to enable users to study anywhere and at any time, making learning more attractive. The findings also correlate with that of Ifeanyi and Chukwuere (2018) that smartphones help students to communicate with their classmates as well as their courses masters/tutors. Also, students use smartphones to explain the facts, illustrations and concepts with colleagues.

Ho: on the test of first null hypothesis, which states that: cell phone usage and application does not significantly affect students achievement the calculated value was found to be greater than the critical value, thus, rejecting null hypothesis Ho, hence, the and application of cell phone significantly determine students success in academic achievement in Tertiary education.

Ho: on the test of second null hypothesis, which states that: cell phone usage and application does not significantly affect students' communication skills of students. The null hypothesis HO was, rejected and alternate was upheld: cell phone usage and appreciation does significantly influence and determine skills in communication.

Educational Implication of the Study

The educational implication of this study is that it will help the government, provide positive measures to instructors and the management to the effective use of information systems available in the institutions for sharing digital information through a common sense of networking and software. The use of phones has not only introduced many socio economic changes in the society but also several particular changes which should be over looked by educators job is to provide young ones to function proficiently in the emergent society.

The undergraduate student will understand that the use of phone is not one of the most important developments in the history of information systems, but it is also one of the most hyper hyped topics in today's business. More so, the findings of this study will expose both the teachers and the students on possible areas where the use of phones have continued to expand its impact on all phases of the society including business and educational organizations.

Conclusion

The importance of phones in teaching and learning cannot be overemphasized. Smartphones are the different electronic teaching aids or apparatus which a classroom teacher employs to facilitate his or her teaching for the achievement of the stated objective. The use of instructional materials in teaching is very important because according to Ajalla (2007), it provides a concrete basis for conceptual thinking, motivates people to learn and capture students' imagination if used correctly. The study found a positive usefulness of the use of smartphone in the students learning activities such as easy sharing and accessing of lecture materials online, easy communication with colleagues and course masters hence enhances achievement being able to carry smartphone any anywhere ad at any time because of its portability

Recommendations

From the findings of the study, the following recommendations were made.

1. Government should endeavor to make adequate provision of modern ICT in tertiary schools in Nigeria
2. There should be constant strong Wi-Fi connection, constant power, and the distance education unit of the university
3. Lecturers should be retained through seminars, workshops and conference so as to enable them have adequate knowledge of how to use modern smartphones like projector and others.

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Appendix

Data Analysis for null hypotheses

Data Analysis for null hypothesis 1

$X^2cal \sum \frac{01- a)\ 2}{E1}$

$X^2cal= \frac{(45-50.6)^2}{50.6} + \frac{112-147.5}{147.5} + \frac{(112-147.692-57)^2}{571} = \frac{(116-108)^2}{107.8}$

$\frac{(355-50.1)^2}{52.1} + \frac{(120-119.1)}{152.5} + \frac{(92-58.8)^2}{95.2} + \frac{(108-111.9)^2}{97.2}$

$\frac{(39-445)^2}{52.1} + \frac{(141-129.7)^2}{152} + \frac{(34-30.2)^2}{93.2} + \frac{(108-952)^2}{97.2}$

$\frac{(38-44.5)^2}{44.5} + \frac{(232-132.7)^2}{133.7} + \frac{(47-30.2)^2}{95} + \frac{(98-95)^2}{93.5}$

$\frac{(50-44.5)^2}{44.3} + \frac{(123-129.7)^2}{129.7} + \frac{(46-50.2)^2}{50} + \frac{(97.933)^2}{95.5}$

Cal = 0.86 + 59 + 21.33 + 0.48
+ 0.16 + 6.77 + 18.75 + 0.14
+ 2.48 + 0.98 + 0.20 + 0.07
+ 2.97 + 17.99 + 0.50.2 + 0.95
+ 0.28 + 0.003 + 0.35 + 0.02

X^2 Cal = 31.26 + 25.82 + 3.75 + 72.11 + 0.65 + 2.46

X^2 = 144.388, (r-I) = C-I) = (7 – 1) (4 – 1) =6X3 =18 at 5% level of error margin
X^2 Critical value = 31.52

Data Analysis for null hypothesis 2

$$X^2Cal = \sum \frac{(01-eI)^2}{EI}$$

$$X^2cal = \frac{(55-45.33)^2}{45.33} + \frac{(120-134)^2}{134} + \frac{(64-55.67)^2}{67} = \frac{18-86.67)^2}{57.1}$$
$$+ \frac{(39-45.33)^2}{45.33} + \frac{(138-134)}{134} + \frac{(34-33.67)^2}{55.67} + \frac{(109-86.67)^2}{86.67}$$
$$+ \frac{(34-45.33)^2}{45.33} + \frac{(160-134)^2}{134} + \frac{(50-55.67)^2}{55.67} + \frac{(80-86.67)^2}{86.67}$$
$$+ \frac{(50-45.33)^2}{45.33} + \frac{(133-134)^2}{134} + \frac{(57-55.67)^2}{55.67} + \frac{(80-86.67)^2}{86.67}$$
$$+ \frac{(44-45.33)^2}{45.33} + \frac{(102-134)^2}{132} + \frac{(82-55.67)^2}{55.67} + \frac{(92-86.67)^2}{86.67}$$

$$2.06 + 1.46 + 1.25 + 0.37$$
$$X^2 = 0.88 + 0.12 + 8.4 + 5$$
$$+ 2.83 + 0.37 + 1.35 + 1.48$$
$$+ 0.48 + 5.04 + 0.58 + 8.21$$
$$+ 0.48 + 0.01 + 0.03 + 0.51$$

X^2 Cal = 5.14 + 15.18 + 6.03 + 14.31 + 1.03 + 20.47
X^2 Cal = 62.14
X^2 Critical value = 27.49
Decision Rule: If X^2 Cal > X^2 Critical value
Reject HO: Otherwise accept
Df = (r-I) (C-I) = (6-1) (4-1) = 5 X 3 = 15 at 5% level of significant = 62.14 > 27.49