

The Usage and Significance of Internet Enabled Mobile Phones on Academic Concentration of Tertiary Institutions' Students: A Study of Moshood Abiola Polytechnic, Nigeria.

¹Sulaimon Mutiu O.

²Adewunmi Olusola

³Mabosanyinje A.

^{1,2,3}Department of Statistics & Mathematics
Moshood Abiola Polytechnic, Abeokuta, Ogun State, Nigeria.

¹mtsulaimon@gmail.com

²dokunsola@yahoo.com

³maboadedeji@yahoo.com

ABSTRACT

In modern classrooms, instructors face many challenges as they compete for students' attention among a variety of communication stimuli. Rapid growth of mobile computing, including smart phones and tablets, presents a double-edged problem: along with previously unimaginable access to information come previously unforeseen distractions. Of wide concern to many instructors is the potential distraction caused by students using their mobile devices to text, play games, check Facebook, tweet, or engage in other activities available to them in a rapidly evolving digital terrain. The usage of internet enabled mobile phones is a 21st century experience which covers various operations. This study examines the usage and significance of internet enabled mobile phones on the academic concentration of tertiary institutions' students using Moshood Abiola Polytechnic, Nigeria as a case study. The study was carried out in order to understand and bring to fore whether students' academic concentration is significantly affected due to the usage of internet enabled mobile phones, which has a general perception as a medium of distractions to students. The retrieval of the information gotten from this study was done with structured questionnaire administered to 500 randomly selected students to obtain their personal opinions. The analysis of the students' perception shows that internet enabled mobile phones usage have significant effect on the academic concentration of tertiary institutions' students.

Keywords: Academic Concentration, Internet, Mobile Phone, Polytechnic, Significance, Tertiary Institution, Usage

INTRODUCTION

The world is a comprehensive cyber community that has been connected by a network of wired and wireless devices through the World Wide Web (WWW). Today most of us have secured a room in cyber space by having e-mail accounts, doing online transactions and through e-learning. All these online activities can be performed through both wired and wireless devices. Both these types of devices function through wireless transmission. Thus, the intangible thread that has united the virtual world is wireless technology. Undoubtedly, without nature providing the electro-magnetic spectrum, wireless transmissions through radios, televisions, computers, mobile phones and even remote controlled toys are not possible. The only device in the list that can

embed several gadgets together is a mobile phone (Shanthi V. R., 2009).

With the growing number of gadgets embedded in modern mobile phones (particularly 3G and 4G phones) such as the MP3, Internet, Camera (still and video), TV, and the decrease in the size and the price of such devices, mobile phones have become omnipresent. The mobile phone is an anytime and anywhere tool, boosting the tendency to do things discreetly as well as openly. The internet has removed geographical boundaries and so have mobile phones that has blurred the borders between public and private lives (Caronia & Caron, 2004).

Although, the internet wasn't widely accessible all over the world with just 400 million internet users in 2000, the numbers have soared high up to 3.2 billion internet users globally by the end of 2015. The numbers are even more promising because



out of the total number of global internet users today, 2 billion users belong to developing nations (like Nigeria) which seemed impossible in 2000 when internet was considered to be an expensive affair and only accessible to those having deep pockets. The major portion of these peaks in internet usage comes from mobile or smartphones (Rajeesh Nair, 2015).

Mobil enabled phones have become an almost essential part of daily life since their rapid growth in popularity in the late 1990s. A nationwide survey conducted in 2010 shows that mobile phones are the most necessary medium of communication for adolescents. It has virtually affected the society's accessibility, security, safety and coordination of business and social activities and has hence become a part of culture of the whole world (Soyemi J., Oloruntoba S. A., Okafor B., 2015).

As mobile phones have become more available, they are increasingly owned and used by teens. Further, as mobile phones become more loaded with capabilities ranging from video recording and sharing, to music playing and internet access, teens and young adults have an ever-increasing repertoire of use. Indeed, we are moving into an era when mobile devices are not just for talking and texting, but can also access the internet and all it has to offer. (Pew Research Center, 2010).

According to majority of research done so far, it was discovered that the use of mobile phone in schools is problematic. As Ling and Helmersen states, the mobile phone is: at cross purpose with the mission of the school". While in school students are supposed to take on their prescribed roles as students with full concentration on their studies and free from contact with outside world. However, the mobile phone gives room to blending students' roles with other roles thus distracting and disrupting the students' academic work. In the past when fixed telephones were the norm in schools, there were minimum distractions and disruptions but presently with the invasion of mobile phone and the eagerness of parents to maintain contact with their wards, the device is becoming part of classroom. Thus, the mobile phone has the power to undermine the schools' authority and weaken their control over students as well as affects their level of academic concentration (Geser H., 2004).

STATEMENT OF PROBLEM

The invention of technology such as mobile phones has, no doubt, positive progress to human societies, but this invention equally brought in its wake some observed attitudinal problems among

tertiary institution students. These mostly manifest among the undergraduate tertiary institution students, who use internet enabled mobile 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 usage are significantly the contributing factors especially in the twenty-first century. Most students who use internet enabled mobile phones devote much time interacting with their phones by chatting on Twitter, 2go, Facebook, Instant messages (Bbm, Yahoo messengers) and so on. Consequently, the time that ought to have been devoted to study and other useful academic endeavors are thus frittered away. In the light of the problems and in locating the root cause of the problems posed by the relationship between the students' use of internet enabled mobile phones on their academic performance, it is pertinent and imperative to carry out a study of this kind, in which a sizeable number of students were engaged.

It is to this effect that this study investigates the usage and significance of internet enabled mobile phones on academic concentration of tertiary institutions' students with Moshood Abiola Polytechnic as case study.

AIM AND OBJECTIVES

The aim of this research work is to determine if internet enabled mobile phones usage have significant effect on the academic concentration of tertiary institutions' students.

The objectives are:

- (i) To determine the most visited social site.
- (ii) To determine browsing frequency.
- (iii) To determine the most information sourced.
- (iv) To determine if the most information sourced is independent of students' sex.
- (v) To examine the significant effect of internet enabled mobile phones on students' academic concentration.

SCOPE OF THE STUDY

This research work covers mainly the perception of students towards internet enabled mobile phones and its significant effect on their level of academic concentration. In the course of this study a primary data was obtained from randomly selected students of "Moshood Abiola Polytechnic" considering "Full



Time” students only, with a sample size of 500. The polytechnic is being divided into five schools, in which 100 samples are taken from each school. A probability sampling vis-à-vis stratified sampling and simple random sampling technique were adopted so as to give all students equal chance of been selected. Data were collected via self administered questionnaire.

RESEARCH QUESTIONS

1. Is the most information sourced independent of students’ gender?
2. Do internet enabled mobile phones significantly affect students’ academic concentration?

RESEARCH HYPOTHESES

H₀₁: The most information sourced is independent of students’ gender.

H₀₂: Internet enabled mobile phones do not have significant effect on students’ academic concentration.

SIGNIFICANCE OF THE STUDY

This research work is of particular benefit to tertiary institutions’ students in that it helps to see a vital relationship between mobile phones usage and academic concentration. It will also be of significance to research students, the institution academics & management, and the population at large.

LITERATURE REVIEW

The influence of Internet on Academic Performance of students differs depending on population. Some studies reported no significance effect, however, other studies affirmed effect of Internet access of students with a post test results according to Ehrman (1995). Sanni et al (2009) in a recent study observed that there is a gender difference in internet use and thus adequate attention should be paid to ensuring equal access between male and female students.

On previous research on phones and teens, the first studies to examine the social consequences of the mobile phone came in the early 1990s, when researchers examined its impact on residential markets (Jarrat and Coates 1900). Thus, attachment to the internet enabled phones is one area of conflict

and regulation that should be looked into because, adolescents seem to become extremely self-conscious and pay significant attention to what peers think of them. Therefore, the students are being thrilled by current happenings and trends of fashions which are found in social structure of the social setting. Apart from the negative effect through the usage of those phones by the students, it also have some other effects, which may be psychological. The addictive nature of cell phones has concerned psychologist for years. Recently, psychologists have warned that smart phone users are especially at risk of becoming addicted to their devices.

Some people can experience withdrawal symptoms typically associated with substance abuse, such as anxiety, insomnia and depression, when they are without their smart phones and all these are embedded to the course of academic relapse of students who fall into this category. Surprisingly, these addictions take strong toll on the student without them noticing it and some of them find it hard to believe that they are addicted to their phones. Thus, giving more credence to the amount of time mated out to these phones than academics. Chóliz (2010) pointed out that excessive use of and dependency on the cell phone may be considered an addictive disorder. In order to address some of the issues attached to cell phones researchers chose different area of interest and teasing them out.

Geri and Grace-Martin (2001) discovered that the emergence of statistically significant results suggests that quantitative characteristics of browsing behavior can be useful predictors of meaningful behavioral outcomes. Variables such as number of browsing sessions and length of browsing sessions correlated with students’ final grades. The valence and magnitude of these correlations were found to interact with the course (whether a student was enrolled in the communications or computer science course), browsing context, and gender.

According to Carvin (2006) researchers noted that for the first six months of the study, Internet access appeared to have no effect on GPA. However, Internet usage did predict GPA obtained after one year of home access. This pattern continued through the end of the study, the researchers observing a correlation between home Internet access and higher grade points. They also correlated home access with higher standardized test scores in reading: More time online was associated with higher reading comprehension and total reading scores. They attributed these results to the text-heavy nature of Internet. Having access to the amount of



information that the Internet provide help students complete homework and projects. Socializing tools help students study with their peers. Students already use this technology and if teachers starts to teach their students to use these tools to enhanced their Education, then there will be a strong correlation between Internet access and GPA.

Osunade, Ojo and Ahisu (2009) research work showed a significant difference in academic performance between those who had Internet access and those without.

In their study titled "Social Network: Academic and Social Impact on College Students", Tayseer, M. et al (2013) found that there is a correlation between the students GPAs and their usage of social networks. An interesting finding was that many of our respondents do not use social sites to look for college-related information; however, many of them encourage the idea of having online study groups. Another finding showed that the students tend to use social networks for social purposes more than the academic ones.

The survey conducted by North, Johnston, and Ophoff (2014), showed some signs of addiction to respondent's mobile phones. Differences in mobile phone use by gender were found, with female students showing increased mobile phone use for safety and socializing, interest in brand and trends, as well as signs of addiction.

According to Kuznekoff and Titsworth (2013), participants in three different study groups (control, low-distraction, and high-distraction) watched a video lecture, took notes on that lecture, and took two learning assessments after watching the lecture. Students who were not using their mobile phones wrote down 62% more information in their notes, took more detailed notes, were able to recall more detailed information from the lecture, and scored a full letter grade and a half higher on a multiple choice test than those students who were actively using their mobile phones.

In his study, Sykes, E. R. (2014), found that with a mixed method design that students using a smartphone application enjoyed and performed very well in a course, so they exceeded their performance of a comparison group (traditional course) with statistically significant differences.

METHODOLOGY

Research design

The quantitative design methodology was employed in this study. This design was selected

because the study aims to examine the usage and significance of internet enabled mobile phones on academic concentration of tertiary institutions' students. Since the study is a quantitative study, the sole instrument utilized for data collection was questionnaire. The study population consists of the entire "Full Time" students of Moshood Abiola Polytechnic with a random sample of 500 students selected there from. The questionnaire used in this study consists of two sections. Section A (Demographic Background) requires respondents to provide background information such as Gender, Age, Nationality, Marital Status, Religion, Program, Level of Study and Source of Funding. Section B contains research parameters like Browsing Frequency, Most Information Sourced, Most Visited Social Site, Believe Phone Aids in Preparation for Exams, and Make Use of My Phone While Lecture is Ongoing.

Method of data collection

Respondents were approached and informed that they had been randomly selected to be the respondents for the study and they were given a brief explanation on the purpose of the study and its contribution to the field of education. Respondents were given a brief instruction on how to fill the questionnaire that was given to them. Once the questionnaire was administered, the respondents were given ample time to complete it and the questionnaire was collected on the same day to ensure high response rate.

Method of data analysis

In this research work primary data was collected. After all questionnaires were collected, all data gathered were keyed – in and analyzed electronically using SPSS 21. Frequency distributions and Inferential statistics (chi-square test) were carried out in answering the research questions of this study. The chi-square test was carried out at 5% percent level of significance.

The chi-square test statistics is defined as:

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \left[\frac{(O_{ij} - E_{ij})^2}{E_{ij}} \right]$$

With $(r - 1)(c - 1)$ degree of freedom.

Where r = Number of rows

c = Number of columns
 O_{ij} = Observed frequency across the i^{th} row and j^{th} column
 E_{ij} = Expected frequency across the i^{th} row and j^{th} column

Where O_r = Observed row frequency
 O_c = Observed column frequency
 $T_{..}$ = Total number of observed frequencies or sample size n

And

$$E_{ij} = \frac{O_r \times O_c}{T_{..}}$$

The *Decision Rule* is to reject the null hypothesis if the "Pearson chi-square asymptotic significance" $< \alpha$ (0.05).

RESULTS

Frequency Distribution of Demographic Variables:

Table 1: Gender

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Female	268	53.6	53.6	53.6
	Male	232	46.4	46.4	100.0
	Total	500	100.0	100.0	

Table 2: Age

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Below 18	30	6.0	6.0	6.0
	18-22	297	59.4	59.4	65.4
	23-27	161	32.2	32.2	97.6
	28-32	11	2.2	2.2	99.8
	Above 32	1	.2	.2	100.0
	Total	500	100.0	100.0	

Table 3: Religion

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Christian	323	64.6	64.6	64.6
	Islam	177	35.4	35.4	100.0
	Total	500	100.0	100.0	

Table 4: Nationality

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Non- Nigerian	1	.2	.2	.2
	Nigerian	499	99.8	99.8	100.0
	Total	500	100.0	100.0	

Table 5: Marital status

		Frequency	Percent	Valid percent	Cumulative percent
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Valid	Single	491	98.2	98.2	98.2
	Married	9	1.8	1.8	100.0
	Total	500	100.0	100.0	

Table 6: Source of funding

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Others	10	2.0	2.0	2.0
	Student loans	1	.2	.2	2.2
	Bursaries	1	.2	.2	2.4
	Spouse	8	1.6	1.6	4.0
	Personal savings	34	6.8	6.8	10.8
	Parents	446	89.2	89.2	100.0
	Total	500	100.0	100.0	

Table 7: Program

		Frequency	Percent	Valid percent	Cumulative percent
Valid	HND	132	26.4	26.4	26.4
	ND	368	73.6	73.6	100.0
	Total	500	100.0	100.0	

Table 8: Level of study

		Frequency	Percent	Valid percent	Cumulative percent
Valid	HND II	51	10.2	10.2	10.2
	HND I	80	16.0	16.0	26.2
	ND I	186	37.2	37.2	63.4
	ND II	183	36.6	36.6	100.0
	Total	500	100.0	100.0	

Frequency Distribution of Research Parameters:**Table 9: Browsing frequency**

		Frequency	percent	Valid percent	Cumulative percent
Valid	Less than one hour daily	60	12.0	12.0	12.0
	1-2 hours daily	157	31.4	31.4	43.4
	3-4 hours daily	221	44.2	44.2	87.6
	5-6 hours daily	26	5.2	5.2	92.8
	More than 6 hours daily	36	7.2	7.2	100.0
	Total	500	100.0	100.0	

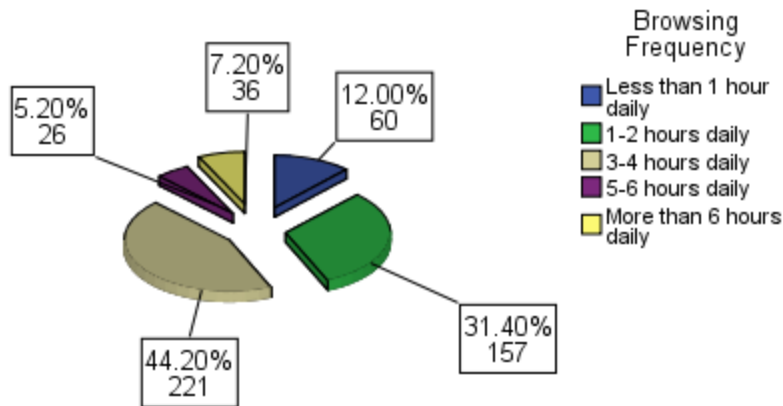


Figure 1: Pie Chart for Browsing Frequency

Table 10: Most information sourced

	Frequency	Percent	Valid percent	Cumulative percent
Valid Academic	234	46.8	46.8	46.8
Networking	86	17.2	17.2	64.0
Blogging	12	2.4	2.4	66.4
Chat	168	33.6	33.6	100.0
Total	500	100.0	100.0	

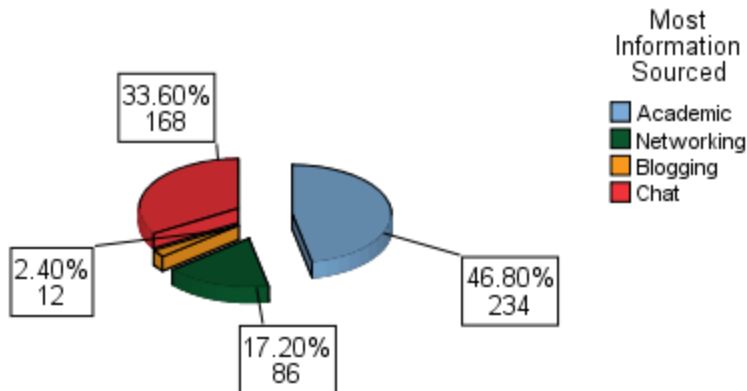


Figure 2: Pie Chart for Most Information Sourced

Table 11: Most visited social sites

	Frequency	Percent	Valid percent	Cumulative percent

Valid	Others	21	4.2	4.2	4.2
	Twitter	18	3.6	3.6	7.8
	Instagram	21	4.2	4.2	12.0
	Instant messenger (2GO, WHATSAPP, IMO, YAHOO E.T.C)	123	24.6	24.6	36.6
	BBM messenger	51	10.2	10.2	46.8
	Facebook	266	53.2	53.2	100.0
	Total	500	100.0	100.0	

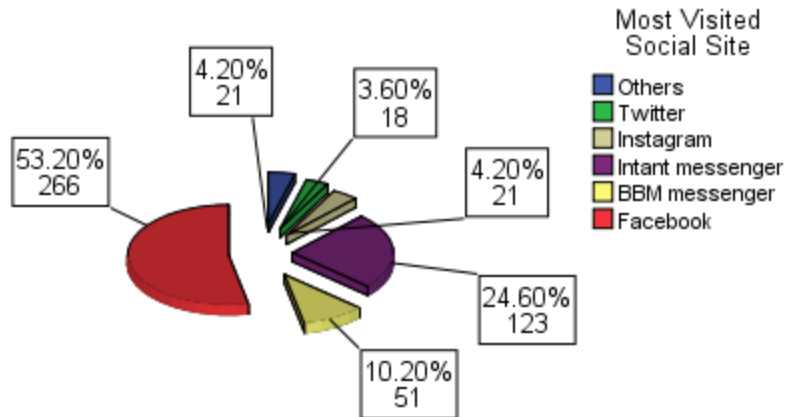


Figure3: Pie Chart for Most Visited Social Sites

Table 12: I believe my phone aids me in preparation for exam

		Frequency	Percent	Valid percent	Cumulative percent
Valid	No	186	37.2	37.2	37.2
	Yes	314	62.8	62.8	100.0
	Total	500	100.0	100.0	

Table 13: Make use of my phone while lecture is ongoing

		Frequency	Percent	Valid percent	Cumulative percent
Valid	No	386	77.2	77.2	77.2
	Yes	114	22.8	22.8	100.0
	Total	500	100.0	100.0	

Hypotheses test:

H₀₁: Students gender is independent of the most information sourced.

Table 14: Chi-square test of independence of most information sourced and gender

	Value	df	Asymp. Sig. (2-sided)
Pearson chi-square	.069 ^a	3	.995
Likelihood Ratio	.069	3	.995
Linear-by-linear Association	.005	1	.941
N of valid cases	500		

0 cells (.0%) have expected count less than 5. The minimum expected count is 5.57

H₀₂: Internet enabled mobile phones have no significant effect on students' academic concentration

Table 15: Chi-square test of the significance of internet enabled mobile phones on students' academic concentration

	Values	df	Asymp. Sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (2-sided)
Pearson Chi-square	6.536 ^a	1	0.011		
Continuity correction ^b	5.984	1	0.014		
Likelihood ratio	6.409	1	0.011		
Fisher's Exact test				0.011	0.008
Linear-by-linear Association	6.523	1	0.011		
N of valid cases	500				

DISCUSSION OF RESULTS

The number of students that browse more than 6 hours daily was 36(7.2%) while those that browse for less than 1 hour daily was 60(12.0%). Most students browse for 3 to 4 hours daily with a frequency of 221(44.2%)

Majority of the students were found to have used their internet enabled mobile phones to source most for academic information with a frequency of 234(46.8%), followed by using it for Chatting with a frequency of 168(33.6%).

Of the social site most visited by the students, Facebook took the largest share with a frequency of 266(53.2%), followed by Instant Messenger (2GO, WHATSAPP, IMO, YAHOO e.t.c) with a frequency of 123(24.6%).

Furthermore, data gathered from the respondents shows that 62.8%(314) of the students believed that their phones aid them in preparation for exams. However, majority of these 500 sampled students (386, 77.2%) do not make use of their phones while lecture is going on.

From Table 14, the Pearson chi-square asymptotic significance of 0.995 between gender and most information sourced by students at 0.05 level of

significance indicates that the most information sourced by students do not depend on their gender.

The Pearson chi-square asymptotic significance of 0.011 from Table 15, which is less than the set 0.05 level of significance indicates that internet enabled mobile phones usage have significant effect on students' academic concentration at 5% significant level.

CONCLUSION

Based on the aim, scope, sample size, research instrument, research methodology and the case study of this research work, it can be concluded that internet enabled mobile phones usage have significant effect on the academic concentration of tertiary institutions' students at 5% significant level.

RECOMMENDATIONS

1. Students (especially polytechnic students) need to be re-orientated on the need to set their priorities right. This drive towards reorientation must be championed by the institution management in conjunction with the parents/guardians of the students.



2. While the usage of internet enabled mobile phones by students cannot be outlawed, they need to be continuously informed on the positive and negative effects of their usage and of the problems deriving from the over-dependency and unregulated use of their mobile phones.
3. Similarly, the institution management must be more alive to their responsibilities by ensuring conformity to the institution laid down rules and regulations on student's use of mobile phone device during class session.
4. Management of tertiary institutions should intensify guidance and counselling sessions in their respective institutions to occasionally be putting the students on the right track concerning the subject matter.
5. Time management should be incorporated into the curriculum of tertiary institutions.
6. Mobile phones should either be forbidden in lecture halls or switched off if allowed in, instead of the prevailing practice of allowing them in but must be put on mute. This allows the students the opportunity of its usage.

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