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Information and Communication Technology (ICT) Usage and Undergraduate Students Study Habits in Universities in Cross River State, Nigeria.

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**INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) USAGE
AND UNDERGRADUATE STUDENTS' STUDY HABITS IN UNIVERSITIES
IN CROSS RIVER STATE, NIGERIA.**

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Abstract

The main purpose of this study was to investigate the influence of information and communication technology (ICT) usage on students' study habits in universities in Cross River State. To achieve this aim, four null hypotheses were formulated to guide the study. Survey research design was adopted for the study. A sample of 503 respondents was drawn for the study. The questionnaire was the major instrument used for data collection. The data collected were analysed using one-way analysis of variance (ANOVA) at .05 level of significance. The results of the analysis showed that computer usage, internet usage and mobile phone usage significantly influenced students' study habits, the results further showed that social networking has no significant influence on students study habits. Based on the findings, it was recommended that, the government should provide ICT gadgets in universities in Cross River State; information literacy should be taught as a general course in first year in universities in Cross River State; parents should endeavour to provide ICT gadgets with internet connectivity for their children at all levels of education and also monitor them to be sure that these ICT gadgets are used positively; students should learn to use social networking sites constructively; mobile phones in the classroom should not be banned but should be welcomed with open arms and used as a teaching tool and not a means of distraction as so many teachers perceive them to be; use of University of Calabar e-library by students should be cost-free.

Keywords: ICT, Undergraduates, Study Habits, Nigerian Universities

Introduction

Success in school is not so much determined by sheer intelligence as knowing how to study. Being successful in school requires effective study habits. A student's study habits play an important role in determining his/her success in the learning process. Study habits can be good ones which lead to a student excelling or bad ones which can lead to a student

getting mediocre grades. Nneji (2002), defined study habits as learning tendencies that enable students work privately. Effective and successful study consists of more than merely memorizing facts but calls for knowing where and how to obtain information and the ability to make intelligent use of it. Study habits directly reflect on one's learning ability.

Wood and Neal (2007), states that study habits are approaches applied to learning. They are generally critical to success in schools, are considered essential for acquiring good grades, and are useful for learning throughout one's life. There are arrays of study habits, which may tackle the process of organising and taking in new information, retaining information, or dealing with assessments, they include good time management, effective note taking, and homework completion. Acquiring effective study habits are often left up to the student and their support, however there is evidence that they are increasingly taught at the university level.

According to Kass (2013), for students to ensure academic success throughout their stay in the university, it is important to do away with bad study habits. No matter what age and academic level, employing effective study habits can make all the difference between making an 'A', barely passing or worse, failing miserably. Kass (2013), further stated that students should identify their own study preferences, what works for them on a consistent basis and act accordingly. For example, some students study better in the morning or can better focus in small chunks of time rather than a marathon session. Knowing exactly what does and does not work on a personal level, even tracking study patterns and correlating it with related grades, and then proactively creating a study plan and schedule around the proven effective methods, is the most powerful study tool of all. Fielden, (2004), states that good study habits help the student in critical reflection in skills outcomes such as selecting, analysing, critiquing, and synthesizing.

Romeo (2006), stated that students cannot learn simply by being told what to do or by watching others, they have to practice studying frequently. Successful students employ time management system to create study pattern that work and use active learning methods to add meaning and interest to their study time and maintaining their motivation by connecting reasons for study to their life goals and values. Students must develop and established good study habits in doing school work, which can raise their academic performance. Students can easily attain the mastery and areas of specialization and excellent performances from them to gradually attain achievement through their consistent study habits. High grades are commonly the aim of students.

Romeo (2006), stressed that the students' success is dependent on their effectiveness, efficiency and concentration on studying and these are affected by the learning materials they use and the way they use it. Hence, the value of studying is precious and not to be squandered, no matter what the students believe regarding this matter. Study habits may play a major role in academic achievement of the students because without this habit, certainly they cannot fully succeed in their study.

Information and Communication Technology (ICT), is a composite term, which embodies three important concepts. To understand ICT, one must understand all the three concepts. "Information" means many things to many people, depending on the context. Scientifically, information is processed data. Information can also be loosely defined as that which aids decision making. Information, though abstract, could also be visualized as a commodity, which could be bought or sold (DeWatteville & Gilbert, 2000).

Communication refers to the transfer or exchange of information from person to person or from one place to another. When action produces a reaction, whether positive or negative, communication has taken place (Benki & Abba, 2008).

Technology refers to the use of scientific knowledge to invent tools that assists human beings in their efforts to overcome environmental hazards and impediments to comfort. In this regard, technology refers to things like the computer, telephone, mobile phone, television, and the radio. Put together, therefore, ICT has been defined as the acquisition, analysis, manipulation, storage and distribution of information and the design and provision of equipment and software for these purposes (Benki & Abba, 2008).

According to Burniske (2001), ICT skills play an important role in developing a nation. ICT has been regarded as an important tool to leverage the economy and society, thus mastering basic skills and concepts of ICT has become one of the core parts in education, besides reading, writing and numeracy. ICT skills are necessary prerequisites for information literacy and life-long learning.

Karim and Hassan (2006), noted the exponential growth in digital information, which changes the way students perceive study and how electronic materials are used to facilitate study. Participation and communication methods in educational institutions have changed since the use of ICT has been widespread. Teaching-learning processes are simplified by the Internet, computers, mobile phones, social networking and related technologies.

Statement of the Problem

Poor study habits among students in the universities could be among the possible causes of numerous academic problems undergraduate students encounter. Some of these students perform poorly or have low grades or fail outrightly and sometimes are advised to withdraw or change their programmes. Similarly, indulgence in examination malpractice could be an added factor.

It could be inferred from the above sad scenario that most students do not understand the importance of the use and application of relevant study habits to their academic work. Probably as a way out of this situation, students now resort to the use of ICT. Therefore, some students spend time at the e-library of the University of Calabar while some go to cyber cafés, still others use these ICT gadgets at home and in the classroom seeking for information in order to improve their academic performance. The extent to which use of ICT could influence students' study habits and thereby improve their academic performance attracted the attention of the researcher.

The question therefore arises, how do all these ICT gadgets used by students influence their study habits. It therefore became necessary for the researcher to investigate the influence of information and communication technology (ICT) usage on students' study habits in universities in Cross River State, Nigeria.

Hypotheses

The hypotheses which this study tested are:

1. Computer usage has no significant influence on students' study habits (in terms of time management, note taking and homework completion).
2. Internet usage does not have any significant influence on students' study habits (in terms of time management, note taking and homework completion).
3. Mobile phone usage has no significant influence on students' study habits (in terms of time management, note taking and homework completion).
4. Social networking has no significant influence on students' study habits (in terms of time management, note taking and homework completion).

Research Methodology

The survey research design was adopted for this study. Survey research is most appropriate for this study because it is directed towards determining the nature of a situation as it exists at the time of investigation. It is an attempt to collect data from members of a

population in order to determine the correct status of the population with regards to one or more variables

The study area for this research was Cross River State, Nigeria. The population of this study consisted of 10,047 third year students from all faculties in the University of Calabar and the Cross River University of Technology. The sample for this study consisted of 503 respondents drawn from the population.

The major instrument used for data collection was the questionnaire. The questionnaire was divided into two sections; A and B. Section A was used to seek information in respect of the students' demographic or personal data while section B comprised items designed to evaluate the research variables. The validity and reliability of the instrument were properly ascertained by three educational research experts.

Results and findings

Hypothesis one

Computer usage has no significant influence on students' study habits (in terms of time management, note taking and homework completion).

The independent variable in this hypothesis is computer usage (classified into low, average and high levels of usage), while the dependent variable is students' study habits (considered in terms of time management, note taking and homework completion). The classification of the respondents into low, average and high levels of computer usage was based on their mean score in the ICTUSSH questionnaire. Scorers below the mean were considered as making low use of computer, those above the mean as making high use of computer, while those about the mean were considered as averagely using computer. Based on this classification, One-Way Analysis of Variance test statistic was adopted in testing the hypothesis. Results of the analysis are presented in Tables 1 and 2.

TABLE 1
One-Way ANOVA for the influence of computer usage on students' study habits

S/No	Variable	Source of Variation	Sum of Squares	Df	MS	F
1	Time Management	Between Groups	49.371	2	24.686	8.898*
		Within Groups	1387.185	327	2.774	
		Total	1436.557	329		
2	Note Taking	Between Groups	65.419	2	32.709	11.141*
		Within Groups	1468.009	327	2.936	
		Total	1533.427	329		
3	Homework	Between Groups	35.339	2	17.669	8.782*

	Completion	Within Groups	1006.049	327	2.012	
		Total	1041.388	329		
4	Overall Study	Between Groups	425.152	2	212.576	20.424*
	Habit	Within Groups	5204.064	327	10.408	
		Total	5629.217	329		

*significant at .05; critical F=3.00

Results of analysis in Table 1 showed that, the calculated F-ratio for time management (8.898), note taking (11.141), homework completion (8.782), and for overall study habit (20.424) were each higher than the critical F-ratio of 3.00 at .05 level of significance with 2 and 327 degrees of freedom. This means that, computer usage has a significant influence on students study habits in terms of time management, note taking, and homework completion. Based on these results, the null hypothesis was rejected.

Since the results showed significant influence, a post-hoc analysis was carried out to ascertain the pair-wise group means difference(s) responsible for the influence. Fishers Least Significant Difference (LSD) method was adopted for the test. The results are presented in Table 2.

TABLE 2
Fisher's LSD for the influence of students' computer usage on their study habits

S/No	Variable	Computer Usage	Low (74)	Average (296)	High (133)
1	Time Management	Low	16.72 ^a	.81 ^b	.98
		Average	3.73 ^{*c}	17.53	.17
		High	4.07*	.97	17.69
		(MSW=2.774)			
2	Note Taking	Low	16.93	.86	1.16
		Average	3.86*	17.79	.30
		High	4.68*	1.67	18.09
		(MSW=2.936)			
3	Homework Completion	Low	17.00	.43	.84
		Average	2.32*	17.43	.41
		High	4.08*	2.75*	17.84
		(MSW=2.012)			

*significant at .05

- (a) Group Means are along principal diagonals
- (b) Differences among group means are above the principal diagonals
- (c) t-values are below the principal diagonals.

Results of analysis in Table 2 show that there were significant pair-wise group differences as follows:

Time management - low versus average (t=3.73, p<.05), and Low versus high (t=4.07, p<.05); note taking - low versus average (t=3.86, p<.05), and low versus high (t=4.68, p<.05);

homework completion – low versus average ($t=2.32, p<.05$); low versus high ($t=4.08, p<.05$), and average versus high ($t=2.75, p<.05$). Mean values for overall study habit show that, students who use computer highly, have better study habits ($X=53.62$) than their counterparts who use computer averagely ($X=52.75$), and those who use computer lowly ($X=50.65$).

Hypothesis two

Internet usage has no significant influence on students' study habits (in terms of time management, note taking and homework completion).

The independent variable in this hypothesis is internet usage (classified into low, average and high levels of usage), while the dependent variable is students' study habits (considered in terms of time management, note taking and homework completion). The classification of the respondents into low, average and high levels of internet usage was based on their mean score in the ICTUSSH questionnaire. Scorers below the mean were considered as making low use of the internet, those above the mean as making high use of the internet, while those about the mean were considered as averagely using the internet. Based on this classification, One-Way Analysis of Variance test statistic was adopted in testing the hypothesis. Results of the analysis are presented in Tables 3 and 4.

TABLE 3

One-Way ANOVA for the influence of Internet usage on students' study habits

S/No	Variable	Source of Variation	Sum of Squares	Df	MS	F
1	Time Management	Between Groups	48.993	2	24.496	8.827
		Within Groups	1387.564	327	2.775	
		Total	1436.557	329		
2	Note Taking	Between Groups	55.527	2	27.764	9.393
		Within Groups	1477.900	327	2.956	
		Total	1533.427	329		
3	Homework Completion	Between Groups	40.262	2	20.131	10.054
		Within Groups	1001.126	327	2.002	
		Total	1041.388	329		
4	Overall Study Habit	Between Groups	420.508	2	210.254	20.183
		Within Groups	5208.708	327	10.417	
		Total	5629.217	329		

*significant at .05; critical $F=3.00$

Results of analysis in Table 3 showed that, the calculated F-ratio for time management (8.827), note taking (9.393), homework completion (10.054), and for overall

study habit (20.183) were each higher than the critical F-ratio of 3.00 at .05 level of significance with 2 and 327 degrees of freedom. This means that, Internet usage has a significant influence on students study habits in terms of time management, note taking, and homework completion. Based on these results, the null hypothesis was rejected.

Since the results showed significant influence, a post-hoc analysis was carried out to ascertain the pair-wise group means difference(s) responsible for the influence. Fishers Least Significant Difference (LSD) method was adopted for the test. The results are presented in Table 4.

TABLE 4
Fisher's LSD for the influence of students' Internet usage on their study habits

S/No	Variable	Internet Usage	Low (22)	Average (157)	High (324)
1	Time Management	Low	16.77 ^a	.30 ^b	.91
		Average	.79	17.08	.60
		High	2.47*	3.80*	17.68
		(MSW=2.775)			
2	Note Taking	Low	16.55	.95	1.41
		Average	2.42*	17.49	.46
		High	3.70*	2.82*	17.95
		(MSW=2.956)			
3	Homework Completion	Low	16.59	.61	1.07
		Average	1.89	17.20	.46
		High	3.42*	3.43*	17.66
		(MSW=2.002)			

*significant at .05

- (a) Group Means are along principal diagonals
- (b) Differences among group means are above the principal diagonals
- (c) t-values are below the principal diagonals.

Results of analysis in Table 4 showed that there were significant pair-wise group differences as follows:

Time management - low versus high ($t=2.47$, $p<.05$), and average versus high ($t=3.80$, $p<.05$); note taking - low versus average ($t=2.42$, $p<.05$); low versus high ($t=3.70$, $p<.05$), and average versus high ($t=2.82$, $p<.05$); homework completion – low versus high ($t=3.42$, $p<.05$), and average versus high ($t=3.43$, $p<.05$). Mean values for overall study habit show that, students who use Internet highly, have better study habits ($X=53.29$) than their counterparts who use internet averagely ($X=51.77$), and those who use Internet lowly ($X=49.91$).

Hypothesis three

Mobile phone usage has no significant influence on students' study habits (in terms of time management, note taking and homework completion).

The independent variable in this hypothesis is mobile phone usage (classified into low, average & high levels of usage), while the dependent variable is students' study habits (considered in terms of time management, note taking and homework completion). The classification of the respondents into low, average and high levels of mobile phone usage was based on their mean score in the ICTUSSH questionnaire. Scorers below the mean were considered as making low use of mobile phones, those above the mean as making high use of mobile phone, while those about the mean were considered as averagely using mobile phones. Based on this classification, One-Way Analysis of Variance test statistic was adopted in testing the hypothesis. Results of the analysis are presented in Tables 5 and 6.

TABLE 5

One-Way ANOVA for the influence of mobile phone usage on students' study habits

S/No	Variable	Source of Variation	Sum of Squares	Df	MS	F
1	Time Management	Between Groups	31.555	2	15.778	5.615*
		Within Groups	1405.002	327	2.810	
		Total	1436.557	329		
2	Note Taking	Between Groups	22.129	2	11.064	3.661*
		Within Groups	1511.299	327	3.023	
		Total	1533.427	329		
3	Homework Completion	Between Groups	14.821	2	7.410	3.609*
		Within Groups	1026.567	327	2.053	
		Total	1041.388	329		
4	Overall Study Habit	Between Groups	187.811	2	93.906	8.629*
		Within Groups	5441.406	327	10.883	
		Total	5629.217	329		

*significant at .05; critical F=3.00

Results of analysis in Table 5 showed that, the calculated F-ratio for time management (5.615), note taking (3.661), homework completion (3.609), and for overall study habit (8.629) were each higher than the critical F-ratio of 3.00 at .05 level of significance with 2 and 327 degrees of freedom. This means that, mobile phone usage has a significant influence on students study habits in terms of time management, note taking, and homework completion. Based on these results, the null hypothesis was rejected.

Since the results showed significant influence, a post-hoc analysis was carried out to ascertain the pair-wise group means difference (s) responsible for the influence. Fishers Least

Significant Difference (LSD) method was adopted for the test. The results are presented in Table 6.

TABLE 6

Fisher's LSD for the influence of students' mobile phone usage on their study habits

S/No	Variable	Mobile Phone Usage	Low (24)	Average (221)	High (258)
1	Time Management	Low	16.50 ^a	.85 ^b	1.12
		Average	2.97* ^c	17.35	.27
		High	3.11*	2.27*	17.62
		(MSW=2.810)			
2	Note Taking	Low	16.92	.76	.96
		Average	2.59*	17.68	.20
		High	3.13*	1.98	17.88
		(MSW=3.023)			
3	Homework Completion	Low	17.13	.20	.51
		Average	.68	17.32	.31
		High	1.66	3.06*	17.64
		(MSW=2.053)			

*significant at .05

- (a) Group Means are along principal diagonals
- (b) Differences among group means are above the principal diagonals
- (c) t-values are below the principal diagonals

Results of analysis in Table 6 showed that there were significant pair-wise group differences as follows:

Time management - low versus average ($t=2.97$, $p<.05$), and low versus high ($t=3.11$, $p<.05$); note taking - low versus average ($t=2.59$, $p<.05$), and low versus High ($t=3.13$, $p<.05$); homework completion – average versus high ($t=3.06$, $p<.05$). Mean values for overall study habit show that, students who use mobile phones highly, have better study habits ($X=53.14$) than their counterparts who use mobile phones averagely ($X=52.35$), and those who use mobile phones lowly ($X=50.54$).

Hypothesis four

Social networking has no significant influence on students' study habits (in terms of time management, note taking and homework completion).

The independent variable in this hypothesis is social networking (classified into low, average and high levels of social networking), while the dependent variable is students' study habits (considered in terms of time management, note taking and homework completion). The classification of the respondents into low, average and high levels of social networking was based on their mean score in the ICTUSSH questionnaire. Scorers below the mean were considered as making low use of social network, those above the mean as making high use of social network, while those about the mean were considered as averagely using social network. Based on this classification, One-Way Analysis of Variance test statistic was adopted in testing the hypothesis. Results of the analysis are presented in Tables 7.

TABLE 7

One-Way ANOVA for the influence of social networking on students' study habits

S/No	Variable	Source of Variation	Sum of Squares	Df	MS	F
1	Time Management	Between Groups	9.182	2	4.591	1.608
		Within Groups	1427.374	327	2.855	
		Total	1436.557	329		
	Note Taking	Between Groups	13.359	2	6.679	2.197
		Within Groups	1520.069	327	3.040	
		Total	1533.427	329		
3	Homework Completion	Between Groups	3.063	2	1.532	.738
		Within Groups	1038.325	327	2.077	
		Total	1041.388	329		
4	Overall Study Habit	Between Groups	66.277	2	33.138	2.978
		Within Groups	5566.940	327	11.126	
		Total	5629.217	329		

*significant at .05; critical F=3.00

Results of analysis in Table 7 show that, the calculated F-ratio for time management (1.608), note taking (2.197), homework completion (.738), and for overall study habit (2.978) were each less than the critical F-ratio of 3.00 at .05 level of significance with 2 and 327 degrees of freedom. This means that, social networking has no significant influence on students' study habits in terms of time management, note taking, and homework completion. Based on these results, the null hypothesis was accepted.

Conclusion

Four major hypotheses were tested in the course of this study. On the basis of the findings it was concluded that; computer usage, internet usage and mobile phone usage

significantly influences students' study habits. The findings further showed that social networking had no significant influence on students study habits.

Recommendations

Based on the conclusion of the study, the following recommendations were made:

- (i) The Government should provide ICT gadgets in universities in Cross River State.
- (ii) Information literacy should be taught as a general course in first year in universities in Cross River State.
- (iii) Parents should endeavour to provide ICT gadgets with internet connectivity for their children at all levels of education and also monitor them to be sure that these ICT gadgets are used positively.
- (iv) Students should learn to use social networking sites constructively.
- (v) Mobile phones in the classroom should not be banned but should be welcomed with open arms and used as a teaching tool and not a means of distraction as so many teachers perceive them to be.
- (vi) Use of University of Calabar e-library by students should be cost-free.

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