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Assessment of influence of student perception, knowledge, and area of specilization on ICT utilization for academic purposes in College of Health Technology, Calabar

Akedor Ibor Usang[1*], Daniel Orok Archibong[1], Eze Eze Aji[2], Cynthia Eyong[3], Edadi Ukam E[4] and Omeh Anthony Bassey[1]

[1]Department of Medical Laboratory Sciences, College of Health Technolgy, Calabar, Nigeria.
[2]Department of Health Information Management, College of Health Technolgy, Calabar, Nigeria.
[3]Department of Public Health Nursing, College of Health Technology, Calabar, Nigeria.
[4]Department of Medical Laboratory Science, College of Health Technology, Medical Centre, Calabar, Nigeria.

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Information Communication Technology (ICT) application in academics and research has come to stay. While the developed world has not only embraced ICT in academics, they have gone ahead to make teaching and learning far more simpler, on the other hand most of the developed world is still grappling with the provision of basic amenities to its citizens that the idea of ICT appears farfetched and elitist. This study was carried out to assess how student perception, knowledge and area of specialization influenced ICT utilization for academic purposes in College of Health Technology, Calabar. To achieve the objective of the study, three hypotheses were raised and tested at a 0.05 level of significance. Structured questionnaires were administered randomly to a sample of 390 students drawn from all the Departments of the College. The findings of the study revealed among other things that; from hypothesis one, there was no significant influence of student perception on the use of ICT for academic purposes (P > 0.05); from hypothesis two; student knowledge of ICT did not significantly influence the utilization of ICT for academic purposes (P > 0.05) and hypothesis three revealed that area of specialization significantly influenced utilization of ICT for academic purposes (P > 0.05). Therefore, the use of ICT for teaching and learning and the greater awareness of benefits of ICT use in academics is recommended.

Key words: Assessment, student perception, knowledge, area of specialization, ICT utilization in College of Health Technology.

INTRODUCTION

Information Communication Technology (ICT) refers to mediums that grant access to information via tele-communication (Jim, 2012). Aina (2014) says Information Technology (IT); often times also called ICT is an

*Corresponding author. E-mail: akedorusang2rue@gmail.com. Tel: +2348033847894.

omnibus term that combines computer and tele-communication technology. It has to do with the technology used in handling, acquiring, processing, storing and disseminating information. In a more specific sense, ICT is used to refer to the role "unified communications" in association with telecommunication computers as well as other software, storage and audio visual appliances play in letting the user gain access or store and carryout sophisticated procedures on the net (Jim, 2012).

There is hardly any facet of human endeavor without the impact of ICT (Jibal and Michael, 2013); as individuals, organizations, associations, research bodies etc often use ICT. For over twenty years now, the use of ICT has fast become an integral part of mans daily life, greatly transforming the way, time and case of both retrieving and circulating information (Nwalo, 2013). ICT has as it is commonly said turned the world to a global village, with an ever increasing possibility of accessing a wide array of information and knowledge, equally making it possible for shared written, audio and visual information at real time in many parts of the world (Braimoh et al., 2012).

The application of ICT in academic studies has been on for quite some time in the advanced world, quickly becoming the defining factor, especially in higher education, offering students and teachers a broad base of easily accessible data (http://www.webworldbank.org, 2014). The INTEL education transformation web page asserts that -"ICT is an essential foundation of education transformation, providing the tools needed to enhance teaching and learning and support students-centered learning environment" (http://www.intel.com). The flexibility and adaptability of knowledge has been unparalleled since the introduction of ICT, though this concept is relatively recent in many parts of Africa (Vanguard newspaper, 2013). ICT penetration in Africa is still very low due to the combined factors of poverty, corruption, bad and inept leadership, lack of infrastructure and low interest (Sanjay and Monica, 2014). Bringing the matter home, it is on record that, as at June, 2013, only about 0.9% of households in Nigeria owned a personal computer, 3.6% have access to one personal computer, and 0.5% of households owned the device they use in accessing the internet and 3.1% access the internet through other means. The Federal Government of Nigeria had in 2010 launched a bold attempt to make ICT available to all tertiary institutions in the country. The first Nigerian Research and Education Network (NgREN) was commissioned by the Federal Ministry of Communication Technology in collaboration with the ministry of Education and the Nigerian Universities Commission (NUC), which is the regulatory body for universities in Nigeria. The scheme is meant to produce fast internet service to tertiary institutions while facilitating learning, teaching, research and connectivity to the global academic world (Emeka, 2014).

A study on The use of ICT in Universities; a case study of Obafemi Awolowo University Ile-Ife, asserts that both students and teachers alike are aware of the resources available with ICT, with the electronic mail (e-mail) being the most popular resource used; however it was discovered that both staff and students still find it difficult to make efficient use of ICT due to insufficient ICT skills (Esharenana and Emperor, 2010). A related work by Braimoh et al. (2012) on "The evaluation of computer use and internet access among undergraduate Medical students" showed that proper ICT training and knowledge is still relatively low. Another work by Obuh (2010) on "Web Affinity: a study of undergraduate students in Nigerian Universities", opined that there is relatively low level of skillfulness in the use of ICT among students of Nigerian Universities; though students spend more time on the web, they most often patronize non academic websites.

As the use of ICT by students increasingly becomes an area of interest by many researchers, several factors can be advanced for why the ICT will continue to gain popularity amongst students as the years go by. Some of the factors amongst others are the ease of getting information, convenience and availability of varied materials on a particular topic (Burton and Chadwick, 2000). Studies have shown that many students in technologically advanced countries depend almost entirely on internet sources for their research (Burton and Chadwick, 2000). The college of Health Technology, Calabar was used as a case study in this work, having two functional cyber cafes which provide services to staff and students at moderate charge; it equally has a functional e-library. This study was necessitated by a dearth of research on the use of ICT among students of monothecnics, especially in institutions with a health bias like the College of Health Technology. This study therefore aimed at determining the use of ICT for studies among students of College of Health Technology, Calabar, as a window to a boarder picture of what may apply with other Colleges of Health Technology.

Objective of study

The following are the objectives of the study:

1. To examine the perception of students on the use of ICT for academic purpose in College of Health Technology, Calabar.
2. To ascertain the level of students knowledge in application of ICT to studies among students in College of Health Technology, Calabar.
3. To find out the extent to which area of specialization influences the utilization of ICT among students of College of Health Technology, Calabar.

Hypothesis

The following are the research hypothesis of the study:

Table 1. Breakdown of the sample distribution.

Department	Total sample selected
Health Information Management	83
Medical Laboratory Science	66
Community Health	128
Environmental Health	86
Public Health	7
Pharmacy	20
Total	**390**

Table 2. Showing method of sample stratification.

Department	Total sample selected	Sample=40% of population
Health Information Management	208	83
Medical Laboratory Science	166	66
Community Health	336	128
Environmental Health	214	86
Public Health	17	7
Pharmacy	50	20
Total	**991**	**390**

1. There is no significant influence of student perception on the use of ICT among students of College of Health Technology, Calabar.
2. That student do not have knowledge in the application ICT among students of College of Health Technology, Calabar.
3. There is no significant influence of area of specialization in the application of ICT among students of College of Health Technology, Calabar.

METHODOLOGY

The design adopted in the study was the survey design. The design consisted of series of questions which people were asked to respond to. The purpose of the survey was to access the general opinion, perception and feelings in a particular phenomenon. This design was chiefly effective in gathering data on the condition and circumstances that existed in the study for broad generalization. The sample of the study consisted 390 subjects drawn from 6 Departments of the College of Health Technology, Calabar. The breakdown of the sample distribution to the different departments is given in Table 1. The sampling techniques adopted in the study were simple random sampling and stratified random sampling techniques. The sampling was adopted to give the subject equal representation in the study. The stratification was based on the various departments and 40% of the subjects were selected for study; giving a total of 390 (Table 2). The instrument adopted for the study was a set of structured questionnaires consisting of 23 items. The questionnaire was a two point scale which was used for data collection divided into three sections. Section A covered demographic data; section B covered questions on perception of students while section C covered questions on knowledge of the subject matter.

The instrument was distributed to 390 students from six Departments in the College of Health Technology, Calabar. The instrument was given face validity to ascertain its ability to accurately measure what it was intended to. The validity of the instrument was determined through consultation with an expert in research measurement and evaluation who modified the instrument and certified that he instrument was valid for use. The reliability of the instrument was established using Test-retest reliability estimate using 30 students. The reliability coefficient ranged from 0.59 to 0.60, meaning that the instrument was reliable and high enough for use in the study. The data collected were analyzed using independent t-test analytical technique. Forty percent (40%) of each department was used as the sample population. The data were analyzed at 0.05 level of significance. The Table 3 shows the perception of students on ICT utilization expressed in percentage.

Hypothesis one

There is no significant influence of student perception on utilization of ICT in College of Health Technology, Calabar. Question four in the questionnaire which states that: do you think ICT is a relevant tool for academic work was used for the analysis and the results are shown in Table 4. Therefore, since t-calculated value of 1.12 is less than t-tabulated value of 1.97, the null hypothesis is accepted thereby rejecting the alternative. This means that there is no significant influence of student perception on the use of ICT in College of Health Technology, Calabar.

Hypothesis two

That student's knowledge of ICT did not influence the utilization of ICT in College of Health Technology, Calabar. Question one in the questionnaire which states that: Do you use the internet for purposes of solving assignments, developing notes, preparing for exams and writing of research projects, was used for the analysis and the result are shown in Table 6. Following is a table showing

Table 3. Perception of Students on ICT utilization.

Department	Positive %	Negative%
Health Information Management	60	23
Medical Laboratory Science	40	26
Community Health	90	44
Environmental Health	56	30
Public Health	5	2
Pharmacy	15	5
∑	237	153

Table 4. Results of analysis of Student Perception on ICT Utilization.

Students' perception	n	Mean	SD	t-cal value	t-critical value	p.cal value
Positive perception	237	2.78	1.02	1.12	1.97	0.544
Native perception	153	2.90	1.03			

Not significant at 0.05 level of significance, critical t=1.97, df=388.

Table 5. Student Knowledge of ICT Utilization measured in percentage.

Department	Knowledge %	Not knowledgeable %
Health Information Management	60	23
Medical Laboratory Science	40	26
Community Health	90	44
Environmental Health	56	30
Public Health	5	2
Pharmacy	15	5
∑	237	153

Table 6. Results of analysis of Influence of Student Knowledge of ICT on ICT Utilization.

Knowledge of ICT	n	Mean	SD	t-cal value	t-critical value
Knowledge	237	2.88	1.02	1.49	1.97
No Knowledge	153	3.28	3.20		

Not significant at 0.05 level of significance, critical t=1.97, df=388.

Students knowledge of ICT Utilization measured in percentage. Table 5 shows that community Health Department had more students knowledgeable in ICT use, followed by Health Information Management, while Public Health Nursing had the least Students knowledgeable in ICT use. Therefore, since t-calculated value of 1.49 is less than t-critical value of 1.96, with 388 degree of freedom. Hence the null hypothesis is upheld that Students knowledge of ICT does not significantly influence the utilization of ICT in College of Health Technology, Calabar.

Hypothesis three

There is no significant influence of area of specialization on the use of ICT in College of Health Technology, Calabar. The demographic data section A number 3 of the questionnaire which has to do with area of specialization and question one of section C which states that: Do you use the internet for purposes of solving assignments, developing notes, preparing for exams and writing of research projects, were used for the analysis and results are shown in Table 7. Results from hypothesis 3 reveal that area of specialization significantly influenced the utilization of ICT by students in the College of Health Technology Calabar, since the calculated F-ratio of 9.184 was greater than the table F-ratio of 2.21.

RESULTS AND DISCUSSION

Findings from hypothesis one showed that there was no

Table 7. Influence of Area of Specialization on ICT use.

Area of specialization	n	Mean	SD
Health Information Management	83	17.20	4.55
Medical Laboratory	66	17.80	4.62
Community Health	128	18.10	5.62
Environmental Health	86	16.62	4.91
Public Health Nursing	7	10.50	3.61
Pharmacy	20	12.00	2.66
∑	390		

Source of variance	ss	df	Ms	F	sig. of f
Between group	34.914	5	6.98	9.184	0.660
Within group	296.00	384	0.76	-	-
∑	330.914	389	-	-	-

significant influence of student perception of Information Communication Technology (ICT) on the use of ICT in the College of Health Technology, Calabar. This was shown by the fact that the t-calculated value 1.13 was less than the t-tabulated value of 1.97 at 0.05 level of significance. This finding implied that ICT utilization for academic purposes goes on irrespective of what perceptions the students may have about ICT. This finding was supported by Fabunmi (2012) who showed that though students perceived ICT sources as expensive as compared to book sources, it did not influence their usage of ICT sources. However, these findings did not agree with that of David et al. (2012) and Benga et al. (2012) who pointed out that there was a clear relationship between student's perception of ICT and its eventual use.

For hypothesis two, the finding showed that students' knowledge of ICT did not significantly influence the utilization of ICT in the College of Health Technology, Calabar. This can be seen in the fact that the t-calculated value 1.49 was less than the t-critical value of 1.97. This finding was at variance with the finding of Anunobi (2008) and that of Shakeel et al. (2011), which agreed that it was needful to familiarize students with the use and workings of computers and related social and ethical issues; knowing that access to online information like e-book and e-journals can improve students' learning through ICT.

Findings from the third hypothesis showed that there was significant influence of area of specialization in the application of ICT to academic work. This was shown by the fact that the calculated F-ratio of 9.184 was greater than the table F-ratio of 2.21. This finding agreed with that of Ajuwan (2003) who showed a strong relationship between area of specialization and course of study with the use of ICT. The pattern generally pointed the fact that students were more inclined to using online sources where the need was emphasized. There is an aspect of basic knowledge of computer use, awareness of the importance of ICT and the availability of internet services, playing a pivotal role in appreciating ICT application in academics (Fade and Samuel, 2009).

RECOMMENDATIONS

Computer awareness and education at all levels should be encouraged while the application of ICT in academics, including in teaching and learning should be emphasized, especially for students in Colleges.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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