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COMPUTER SKILLS LEVEL OF EDUCATIONAL TECHNOLOGY UNDERGRADUATE STUDENTS IN UNIVERSITY OF UYO, AKWA IBOM STATE

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ABSTRACT

The study surveys the computer skills and Educational Technology students: A case study of students in Educational Technology department, University of Uyo, Akwa Ibom state in the use of computer applications software, computer peripherals and internet facilities. Three research questions and one hypothesis were formulated in-line with the research objectives. The population of the study covers 265 Educational Technology undergraduate students of 2021/22 academic session and sample size 157 was derived by direct interpolation from R.V Krejcie and D.W Morgan Table for sample sizes in research activities. The sample size was stratified into academic levels using proportionate stratified sampling techniques. A research instrument tagged Computer Skills Check List, validated and tested using Cronbach Alpha reliability method with 0.979 outcome was used to elicit responses from the respondents. The research questions were analyzed using frequency count, mean and percentage while the hypothesis was tested at 0.05 level of significance using independent t-test statistics. The result shows that students in Educational Technology department, University of Uyo, Akwa Ibom state do not possess adequate computer skills for academic purposes. It was therefore recommended that more emphasis should be placed on assessing students' Computer skills as part of the students' continuous assessment, stakeholder should equip Educational Technology labouratory with modern and relevant ICT based equipment, periodic vocational counseling should be offered to encourage gender balance in drive to acquire computer skills. The study also recommended among others that in the process of admission into the university education to study Educational Technology, a minimum of proficient computer skills level of applicants should be considered for admission and that the Government should help by subsiding or reducing the tariffs on importation of ICT facilities so that individual student in Educational Technology can afford the purchase.

Keyword: ICT, Educational Technology

INTRODUCTION

Educational Technology is the combined use of computer software, hardware, educational theories and practices to facilitate learning (Robinson, Molenda & Rezabek, 2016) In other words, it is the design, development of instructional materials based on educational learning theories and the use of modern technologies to facilitate learning Therefore, in order to effectively carry out these basic functions on these modern technologies, computer skills are required. This is in line with Bristol's (2014) view that computer skills are needed by undergraduate students to be able to retrieve information from online resources and various technologies.

Computer skill is the knowledge and ability to use computer and related technology, with a range of skills covering levels from elementary use to programming and advanced problem solving. These ranges of computer skills are presentation software skill, computer programming skill, keyboarding skills, graphic designing skill, computer communication skills, database management skill, fixing software conflicts, internet exploration skills, computer peripheral skills and repairing computer hardware among others. These computer skills can be demonstrated under three basic categorization of computer outfits, which are internet facilities, computer peripheral equipment and computer application software packages (Gusen, 2019).

These computer skills are necessary in today's classroom activities but several studies revealed that undergraduate students, particularly those in Educational Technology department find it difficult to access and manipulate productive information via the internet on their own, while some were unemployed for a very long period after graduation (Uzoechi, 2015). This is because there is difference between the computer skills and the display of competencies needed by employers on the job and those possessed and displayed by Educational Technology undergraduate students in the universities. It is therefore necessary to find out the level of computer skills possessed by these undergraduate students in Educational Technology whether it is adequate or not in University of Uyo, Uyo, Akwa Ibom

Statement of the Problem

A closer examination of the findings in literatures established that Educational Technology undergraduate students expressed inability to manipulate essential software, internet facilities and physical components of computer, which gives credence to the difficulties experienced with the application software, internet facilities and computer peripheral equipment for academic purposes. It is therefore necessary to find out if the Educational Technology undergraduate students possessed adequate computer skills for academic purposes in University of Uyo, Uyo, Akwa Ibom

AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to survey the computer skills of undergraduate students in Educational Technology in Public Universities**.** Specifically, the objectives of the study are to:

1. find out the level of computer skills possessed by Educational Technology undergraduate
2. determine which computer skill is predominant among Educational Technology undergraduate students
3. find out the computer skills possessed by Male and Female Educational Technology undergraduate students

RESEARCH QUESTIONS

The Study was guided by the following research questions:

1. What are the levels of computer skills of Educational Technology undergraduate students.
2. What are the types of computer skills possessed by Educational Technology undergraduate students?
3. What are the computer skills possessed by Male and Female Educational Technology undergraduate students?

HYPOTHESES

The following null hypotheses were stated and tested at 0.05 level of significance

1. There is no significant difference between the Computer Skills mean scores of Male and Female Educational Technology undergraduate students

Literature review

Manu, Owusu-Ansah, and Dzamesi (2019) carried out a study on first-year students' desktop computer literacy skill in Windows Management, Power Point Presentation, and Emailing at a public university in Ghana. A descriptive survey design was adopted to complete the study. The findings revealed an overall mean rating of less than 4.0, which was interpreted as respondents' competencies in the applications. However, on a closer examination of the findings, participants' expressed inability to manipulate essential physical computer components as a result of deficiency in computer skills, which gives credence to difficulties they experience with these applications. Regular practice on computer packages to enhance computer skill is recommended

However, Giordani (2011) noted that students can use and innovate with digital technology more effectively if they understand and possesses the required computer skill to make it work. Lecturers' skillfulness in computer are vital to students' computer skills acquisition and competencies (Aslan & Zhu, 2015; Gisbert & Lázaro, 2015; Woodruff, Martin, & O'Brien 2015). Gusen (2019) explains that display of computer skill while using technology during lesson presentation helps lecturers to simplify their lessons, manage their time and enrich their teaching and learning task; but stressed that over-dependence on technology in the classroom should be avoided as technology does not automatically bring about new forms of teaching and learning.

Ogbuiyi (2015) investigated the influence of computer literacy skill on students in three university libraries in South Western, Nigeria. Survey research design was adopted. Questionnaire was used to collect data for the study, and descriptive statistical method was used in analyzing the data collected. Simple random sampling techniques was used to administer the questionnaire. The findings revealed that 52.1% of the respondents have fair level of computer literacy skills which they acquire mainly through formal computer / IT training program and practical self-teaching. Also it shows that the respondents are only proficient on the

use of Microsoft word. The findings revealed that inadequate computer in the library, lack of information literacy and sponsorship to computers/IT training program in the University libraries are the major challenges encountered. The study recommends that universities should provide adequate computer systems in the library and also equip student with proper training on computer literacy skill.

Aitokhuehi, and Ojogho (2014) carried out a study on the Impact of Computer Literacy skill on Students' Academic Performance in Senior Secondary Schools in Esan West Local Government Area, Edo State, Nigeria. The study examined the impact of computer literacy skill on students' academic performance in Esan West Local Government Area of Edo State, Nigeria. To guide the study, four (4) questions were raised and answered. This is to determine the impact of computer literacy skill in the academic performance of students in the senior secondary schools in Esan West Local Government Area of Edo State. Data were got with the use of an instrument titled: Questionnaire on Students' Computer Literacy skill Level and Computer Usage (QSCLSLCU). 120 out of 1,200 final year students, representing 10% were used from the 14 existing secondary schools in Esan west local government area of Edo State, Nigeria. The result shows that Computer Literacy skill has impact on Students' Academic Performance in Senior Secondary Schools

METHODOLOGY

The research design adopted for the study was Descriptive Survey Design of the questioning technique. It is the method of research that looks with intense accuracy at the phenomena of the moment and then describes precisely what the researcher sees. Generally, a survey as a descriptive research methodology describes and interprets what is. The targeted population of the study comprised of all 265 undergraduate student in Educational Technology Department of University of Uyo, Uyo, Akwa Ibom state, South South Geo-political Zone of Nigeria. The sample size was 157, derived by interpolation from R.V Krejcie and D.W Morgan Table for sample sizes in research activities.

The sampling techniques that was used for the study was the stratified random sampling techniques of the proportionate type because it showed that the sample taken from each stratum is proportionate to the stratum's present in the population Data collected was subjected to descriptive and inferential statistics. The descriptive statistics used were frequency count, mean and percentages while the inferential statistic used were independent samples t-test statistics

RESULT

Research Question One

1. What are the levels of computer skills of Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom.

$$\textbf{\% IC or IN} \quad \frac{IC \text{ or } IN}{Sample\ Size} \times 100$$

$$Average\ \% \quad \frac{\sum \% \ IC \text{ or } IN}{No\ of\ Items\ (10)}$$

Tables for Analysis

Table 1 Computer Application Software Skills

Computer Application Software Skills	IC	%IC	IN	%IN
1. Can you use word processing effectively	91	58%	66	42%
2. Can you use spreadsheet effectively	78	49%	79	51%
3. Can you use Microsoft power point Effectively	73	46%	84	54%
4. Can you use desktop publishing software Effectively	57	36%	100	64%
5. Can you use illustration software effectively	67	43%	90	57%
6. Can you use video conferencing packaging effectively	84	54%	73	46%
7. Can you use communication tool effectively	57	36%	100	64%

8. Can you use digital marketing software effectively	37	24%	120	76%
9. Can you use Google slide presentation software effectively	51	33%	106	67%
10. Can you use animation software effectively	17	11%	140	89%
Average		39%		61%

Table 2: Computer Peripheral Skills

Computer Peripheral Skills	IC	%IC	IN	%IN
1. Can you use touch type on keyboard effectively	100	64%	57	36%
2. Can you use projector effectively	97	62%	60	38%
3. Can you use Plotter effectively	78	49%	79	51%
4. Can you use digital mixers effectively	50	32%	107	68%
5. Can you use video camera software effectively	90	57%	67	43%
6. Can you used digital camcorders effectively	111	71%	46	29%
7. Can you use MIDI keyboards effectively	100	64%	57	36%
8. Can you use Scanners effectively	120	76%	37	24%
9. Can you use pen tablets effectively	78	49%	79	51%
10. Can you use Joystick effectively	90	57%	67	43%
Average		58%		42%

Table 3 Internet Exploration Skills

Internet Exploration Skills	IC	%IC	IN	%IN
1. Can you use search engines ?	100	64%	57	36%
2. Can you create wiki?	90	57%	67	43%
3. Can you create a blog	101	64%	56	36%
4. Can you use a blog	80	51%	77	49%
5. Can you use social network site ?	82	52%	75	48%
6. Can you use on-line survey toots to collect data?	77	49%	80	51%
7. Can you create a website?	85	54%	72	46%
8. Can you use insert audio file, image, video and podcast into website?	100	64%	57	36%
9. Can you download a video from YouTube	130	83%	27	17%
10. Can you create an e-mail and use it	140	89%	17	11%
Average		63%		37%

Table 4: Summary of Computer Skills Level possessed by Educational Technology undergraduate students

Computer Skills	% IC
Computer Application Software Skills	**39%**
Computer Peripheral Skills	**58%**
Computer Exploration skills	**63%**

Table 4 above is the summary of computer skills level possessed by educational technology undergraduate students in University of Uyo, Akwa Ibom state. From the table, Computer Application Software Skills is 39% computer skills level, computer Peripheral Skills is 58% computer skill level, while internet Exploration skills level is 63%

Research Question Two

What are the types of computer skills possessed by Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom State?

With reference to the Summary of Computer Skills Level possessed by Educational Technology undergraduate students, research question 2 was answered below

Table 5: Types of computer skills possessed by Educational Technology undergraduate students

S/N	Type of Computer Skills	N	Percent %
1.	Computer Application Software Skills	157	39
2.	Computer Peripheral Equipment Skills	157	58
3.	Internet Exploration Skills	157	63

Result of table 5 shows the types of computer skills possessed by Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom State. The results shows that Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom State possessed a low level of computer application software skills (39%), an average skills level in the use of computer peripheral equipment for academic purpose (58%) and Internet Facilities Skills, which is a little above average (63%) meaning internet exploration skills are mostly used among Educational Technology undergraduate students

Research Question Three

What are the computer skills possessed by Male and Female Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom State?

Tables for analysis

Key: Mic – Male who ticks I CAN, Fic – Female who ticks I CAN

Pic – Population that ticks I CAN

Table 14 Computer Application Software Skills For Gender

	Mic	%IC	Fic	%IC
Male Female				
1. Can you use word processing effectively?	61	67%	30	33%
2. Can you use spreadsheet effectively?	42	54%	36	46%
3. Can you use Microsoft power point effectively?	29	40%	43	46%
4. Can you use desktop publishing software effectively?	34	39%	23	61%
5. Can you use illustration software effectively?	33	49%	34	51%
6. Can you use video conferencing packaging effectively?	50	60%	24	40%
7. Can you use communication tool effectively ?	30	53%	27	47%
8. Can you use digital marketing software effectively?	17	46%	20	54%
9. Can you use Google slide presentation software effectively?	41	80%	10	20%
10. Can you use animation software effectively?	10	59%	07	41%
Average		54.5%		45.3%

Table 15 Computer Peripheral Skills For Gender

	Mic	%IC	Fic	%IC
Male Female				
1. Can you use touch type on keyboard effectively?	51	51%	49	49%
2. Can you use projector effectively ?	50	52%	48	38%
3. Can you use Plotter effectively ?	40	49%	48	51%
4. Can you use digital mixers effectively ?	29	58%	21	42%
5. Can you use video camera software effectively?	30	33%	60	67%
6. Can you used digital camcorders effectively?	65	59%	46	41%
7. Can you use MIDI keyboards effectively?	43	43%	57	57%
8. Can you use Scanners effectively ?	99	62%	21	38%
9. Can you use pen tablets effectively?	48	49%	30	51%
10. Can you use Joystick effectively ?	23	26%	67	74%
Average		48.4%		51.6%

Table 16 Internet Exploration Skills For Gender

Male	Female	M*ic*	%IC	F*ic*	%IC
1.	Can you use search engines ?	44	44%	56	56%
2.	Can you create wiki?	80	89%	10	11%
3.	Can you create a blog ?	80	79%	21	21%
4.	Can you use a blog ?	60	75%	20	25%
5.	Can you use social network site ?	22	26%	60	74%
6.	Can you use on-line survey toots to collect data?	70	91%	07	09%
7.	Can you create a website?	50	59%	35	41%
8.	Can you use insert audio file, image, video and podcast into website?	57	57%	43	43%
9.	Can you download a video from YouTube ?	30	23%	100	77%
10.	Can you create an e-mail and use it ?	90	64%	50	36%
	Average	60.7%		39.3%	

Table 9: The Summary of computer skills possessed by Male and Female Educational Technology undergraduate students

S/N	Type of Computer Skills	Male	Female
1.	Computer Application Software Skills	54.7%	45.3%
2.	Computer Peripheral Equipment Skills	48.4.%	51.6%
3.	Internet Exploration Skills	60.7%	39.3%

Result of table 9 shows the computer skills possessed by Male and Female Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom State. The result shows that Educational Technology undergraduate male Students in University of Uyo, Uyo, Akwa Ibom State possessed low computer application software skills (54.7%) as well as the female students counter-part (45.3%). Similarly in computer peripheral equipment skills, the males possessed 48.4%, while the females possessed 51.6%. On the Internet Facilities Skills, the male possessed 60.7%, while the females possessed 39.3 %.

HYPOTHESES

The following null hypotheses were stated and tested at 0.05 level of significance

Hypothesis One

There is no significant difference between the Computer Skills mean scores of Male and Female Educational Technology undergraduate students in Universities of Uyo, Akwa Ibom State?

Table 10: t-test analysis of Computer Skills mean scores between Male and Female Educational Technology undergraduate students

Variable	N	df	Mean	t	p
Male	30		1.42	19.05	2.02

		58	
Female	30		1.22

Result of table 27 shows the t-test analysis of Computer Skills mean scores between Male and Female Educational Technology undergraduate students. The result shows that the p – value of the Computer Skills mean scores between Male and Female Educational Technology undergraduate students with $\bar{x}$ = 1.42 and 1.22 at df = 58 is $p = 2.02$, meaning $p > \propto (0.05)$. This signifies that there is no statistical difference between Computer Skills mean scores between Male and Female Educational Technology undergraduate students. Therefore the hypothesis (H_{02}) which state that there is no significant difference in the Computer Skills mean scores between Male and Female Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom state is retained.

Discussion of Findings.

The results of the findings of the study were discussed below with respect to the research questions and the formulated null hypotheses:

Based on the data collected and analyzed, the responses to research question one indicated that Educational Technology undergraduate students do not possess adequate computer skills for academic activities. It obvious that none of them was able to operate at National Economic Empowerment and Development Strategies (NEEDS, 2005) goals, which is minimum of 80% level of computer skills. This confirmed the assertion of Ogbuiyi (2015) that universities students have low level of computer literacy skills, implying that the efforts made by stakeholders to improve the computer skills of undergraduates students, especially those Educational Technology undergraduate students in in University of Uyo, Uyo, Akwa Ibom had not yielded significant outcome as a result of some computer skills deficiencies.

This was not unconnected to the facts that most Public Universities in Nigeria do not assess computer skills of undergraduate students, just as Mugo (2014) indicated in the study that 61% of the universities researched on, never used computer software for teaching and learning processes. Likewise, Bukar and Shehu (2014) investigation on how computer skill affected University of Maiduguri students' perception of a computerized record system showed that there is no association between level of computer literacy skill and desire for computerization among students sampled.

Answer to research question two showed that the internet exploration skills is predominantly demonstrated among Educational Technology undergraduate students in in University of Uyo, Uyo, Akwa Ibom, Nigeria for academic activities. This shows the type of computer skills they possessed and confirmed the assertion made by Mercy and Taiwo (2022) on Frequency and Perceived Enjoyment of the Use of Web 2.0 Tools by Undergraduates of Two Universities in Nigeria, that students loved to be exposed to a wider range of Web 2.0 tools (being an internet outfit) for gainful learning experiences which may lead to good academic performance, implying that online instruction is more accessible to undergraduate students in Educational Technology and should be used in teaching and learning process especially among Educational Technology undergraduate students in in University of Uyo, Uyo, Akwa Ibom.

Likewise, the assertion supported Connectivism Learning Theory postulated by George Siemens and Stephen Downes (2005) that students learn best when they are taught to create and navigate social networks via technology and use these networks (internet) to learn (Downes, 2005). In the same vein, Lung-Yu and Long-Yuan (2016) study showed that a significant positive relationship exists between computer skill and online learning attitude among the undergraduate students. That means that students generally develop keen interest in the use of internet facilities for academic purposes.

Responses to research question three showed that the Male Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom, Nigeria possessed more computer skills than their female counterpart in Computer application software and internet exploration skill. This was parallel to Huseyin,Mehmet and Jafar (2015) view that gender differences potentially affect computer literacy skills. Also, it confirmsUzoechi (2015) assertion that male students were better than their female counterparts in computer skills acquisition for employability but, competency in computer peripheral skills for academic purposes were accorded to the female Educational Technology undergraduate students more their male counterparts, which could be traced to the assertion of Park and Lee (2014) that female undergraduate students were found to be more literate than their male counterpart in computer skills that enhanced relationship in order to keep their personal relationships strong as compared to male counterpart.

This is because these operations encourages fun, skills creating, interesting activities and enjoyable (Hew, Huang, Chu & Chiu, 2016), which accounted for the higher levels of use by the female Educational Technology students. This implies that more attention should be given to these computer skills in order to encourage the female Educational Technology students in developing competencies in computer skills. This was also similar to Maxwell and Maxwell (2014) assertions that although there was increased access to computers by way of the attainment of western education by more girls, there is still a noticeable gender difference in computer competencies among female undergraduate students in Educational Technology in the Public universities. The null hypothesis one which state that there is no significant difference in the Computer Skills mean scores between Male and Female Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom, Nigeria was found to be true.

CONCLUSIONAND RECOMMENDATIONS

The study concludes that Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom, Nigeria do not possess the required computer skills as stipulated by National Economic Empowerment and Development Strategy (NEEDS) and have not intensify their commitment to acquire computer skills that are needed for teaching, learning and employability of Educational Technology graduates.

The study recommended among others that in the process of admission into the university education to study Educational Technology, a minimum of proficient or regular level of computer competencies for applicants should be considered for admission. This will help to minimize the computer skills deficiencies of undergraduate students in Educational Technology, especially in University of Uyo, Uyo, Akwa Ibom, Nigeria. The study also recommended a curriculum modification approach among others, in order to strengthen the commitment of undergraduate students in Educational Technology, especially in University of Uyo, Uyo, Akwa Ibom, Nigeria. The curriculum for Educational Technology undergraduate students should emphasis more of psychomotor objectives than cognitive objectives, so as to imbibe the culture of skills development in Educational Technology undergraduate students.

A vocational guidance and counseling periodical session that will encourage gender equality drive for acquisition of computer skills among undergraduate students in Educational Technology, especially in University of Uyo, Uyo, Akwa Ibom, Nigeria. This will help to equalize gender participation in the exploration of computer base equipment that were available and accessible in the public universities to Educational Technology undergraduate students, so that teaching and learning protocols that were unethical for a particular gender can be facilitated by the other gender, which possesses the ethical characteristics.

Base on the findings, the study recommended that the establishment and regular funding of Educational Technology Centre through the use of Tertiary Education Trust Fund (TETFUND) should be encouraged in all Educational Institutes, especially those in University of Uyo, Uyo, Akwa Ibom, Nigeria. This will help to enhance acquisition of computer skills and display of competencies through regular access to the equipped Educational Technology Centre with equipment that cannot be personally owned because of high cost of the equipment. Likewise, the study recommended that power supply must be uninterrupted. So, government should supply a standby generator

The study also recommended that the Federal Government should help by subsiding or reducing the tariffs on importation of ICT facilities so that individual student in Educational Technology, especially those in University of Uyo, Uyo, Akwa Ibom, Nigeria can afford the purchase of the ICT facilities and accessories for personal training outside the campus since the price will be lower. This will help to boost the acquisition of computer skills and display of competencies. Similarly, the study also recommended among others, that the Government and University administrators should ensure regular power supply, for effective use of ICT facilities that will enhance the acquisition of computer skills and display of competencies among Educational Technology undergraduate students, especially those in University of Uyo, Uyo, Akwa Ibom, Nigeria.

Base on the findings, the study also recommended that the Government and University administrators should ensure uninterrupted campus internet service, especially the Campus Area Network (CAN) in order to provide opportunity for internet exploration skills among Educational Technology undergraduate students in University of Uyo, Uyo, Akwa Ibom, Nigeria Through this, the Educational Technology undergraduate students will be able to connect with colleagues and update their computer skills, learn better and be familiar with the latest information.

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