Research Article

APPRAISAL OF BASIC TECHNOLOGICAL SKILLS POSSESSED BY COMPUTER SCIENCE STUDENTS FOR INDEPENDENT LEARNING IN COLLEGES OF EDUCATION SOKOTO STATE, NIGERIA

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Abstract

The study looked in to the Appraisal of Basic Technological Skills Possessed by Computer Science Students for independent Learning in Colleges of Education Sokoto State, Nigeria. The study Adopted Survey Research Design. Three Research objectives and three Research questions were used to guide the study. The Population of the Study Consisted of 377 N.C.E II Computer Science students. The sample was chosen using a simple random selection procedure. The study's data was gathered using the Questionnaire tagged Computer Science students questionnaire (CSSQ), which was validated and determined to have a reliability index of 0.81. To address research questions, the data was Analysed using Percentage counts, mean and standard deviation. The findings of the study revealed that, Students were familiar with Basic Technological Skills such as: Microsoft world, PowerPoint, and the Internet which help to learn successfully and efficiently. Similarly, the Technological skills possessed by male students for independent Learning was slightly difference from that of female. Moreover, Technological Skills has lots of benefit in Students Learning as it's serve as a cornerstone of many courses to achieve excellence.

Keywords: ICT, Technological Skills, Learning.

INTRODUCTION

We live in a world that is rapidly changing and getting more scientific and Technological. Education, in all forms and subjects, is not left out from this transformation. The integration of ICT into the teaching and learning process has resulted in an improved advanced learning environment as well as the acquisition and dissemination of knowledge at all levels of education. Information and communication technology (ICT) has shown otherwise, as it continues to improve and expand in a variety of ways. This progress has continued to benefit mankind, facilitating growth and development, among other things. Of course, the increase brought about by ICT does not exclude the education sector. ICT refers to any type of technology that is used to transmit, save, create, or share data (Gusen, 2017). This concept says that ICT encompasses a wide range of technologies, including telephones, televisions, video, computer hardware and software, and DVDs, among others. ICT can also refer to computers, software, networks, satellite links, and other technologies that enable individuals to access, analyze, generate, exchange, and use data, information, and knowledge. The use of ICT in education increases both the quantity and quality of education. This concurs with Yusha'u and Nannim (2018)'s assertion that ICT promotes and improves teaching and learning, removing time and place as barriers to education. ICT also allows for more creative, informed, and logical thinking, as well as increased output, efficiency, and informative outcomes. This is consistent with Jung's (2015) assertion that ICT improves learning methods and behavioral targets, as well as predicting teaching and learning results in higher education institutions.

One of the abilities required to make meaningful use of information kept on the internet is basic technological skills to utilize a computer. Basic technological skills are required to make effective use of these online resources. Technological skills can also be defined as the ability to fully comprehend and develop a variety of abilities, such as recognizing, spotting, assessing, and effectively utilizing information (Basil *et al.*, 2020). This could imply that, in addition to these fundamental skills, the ability to inquire, communicate, and collect data is critical. Every student's education now includes learning how to use computers successfully. Basic technological skills, according to Haywood (2016), include spreadsheet, word processor, database presentation, and Internet services expertise. These technological killings are necessary in today's environment in order to have access to and use information. These technological Skills are necessary for Students to function well in today's world. According to UNESCO (2017), these competencies lead to universal access to education, educational equity, and the transfer of high-quality learning and teaching. This suggests that students at educational institutions can improve their learning by employing relevant technological abilities. As a result, institutions of higher learning, such as colleges of education, the government, and companies are expected to pay close attention to students' fundamental technological abilities as it may improve education in general by improving teaching and learning. However, many students have access to computers and internet facilities both at home and at school, according to Siddiquah and Salim (2017), and as a result, they possess some Basic Technological skills such as knowledge of Microsoft Word, video games, social networking, Microsoft PowerPoint, internet searching and browsing. While other abilities, such as adequate e-library practice, video conferencing, discussion

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forums, e-mail, file uploading, and blogging, are clearly lacking. When it comes to gender issues, all classes and groups of people around the world, particularly academics and educators, are concerned. Gender is regarded and treated based on specific facts, such as societal and cultural views, life patterns, and individual priorities. Boys were allowed to go to school in colonial times, while girls stayed at home to do housework. There is no gender disparity today. It is on this background that, the study wants to look in to the Appraisal of Basic Technological Skills Possessed by Computer Science Students for Independent Learning in Colleges of Education Sokoto State, Nigeria, in light of the foregoing.

Objectives of the study

The main aim of this research is to investigate the Basic Technological skills possessed by Computer Science students for independent learning in colleges of education Sokoto, Nigeria. The objectives in specific terms were:

1. To determine the level of Basic Technological Skills Possessed by Computer Science Students in colleges of education Sokoto, Nigeria for independent Learning.
2. To find out the Basic Technological Skills Possessed by Computer Science Students in colleges of education Sokoto, Nigeria base on gender.
3. To determine the benefit in utilising the Basic Technological Skills Relevant for Effective Learning.

Research questions

The study was guided by the following research questions.

1. What is the Level of Basic Technological Skills Possessed by Computer Science Students in colleges of education Sokoto for independent Learning?
2. Does the Basic Technological Skills Possessed by Computer Science Students differs base on gender?
3. Is there any benefit in utilising the Basic Technological Skills Relevant for Effective Learning?

METHODOLOGY

Research Design

The research design adopted for this study is the survey research design. It was considered appropriate for this study because it give the researchers the opportunity to collect data from defined population (Awotunde and Ugodulunwa, 2014).

Population

The target population for the study consisted of all N.C.E II Computer Science Students in two colleges of education Sokoto State. The total number of N.C.E II students in Computer Science were 377. Details of the population were shown in Table 1.

Table 1. Population of Computer Science Students in Colleges of Education Sokoto State

Name of colleges	Boys	Girls	Total
S.S.C.O.E Sokoto	165	60	225
Biga college sokoto	72	80	152
Total	237	140	377

Source: Respective colleges (2021/2022)

Sample

From the population of 377 students, samples of 58 participants were selected for the study using simple random sampling techniques. The sample is viable in accordance with central limit theorem that recommended 30 participants as minimum sample size for a study of this type (Awotunde and Ugodulunwa, 2014).

Table 2. Sample

Name of colleges	Boys	Girls	Total
College A	21	9	29
College B	17	11	29
Total	38	20	58

Source: Respective colleges (2021/2022)

Research Instrument

The researchers Adopted Students' questionnaire, called Computer Science Students Questionnaire (CSSQ) in order to investigate the Technological Skills Possessed by Computer Science students' base on the four Likert's scale rating i.e. strongly agreed (SA), Agreed (A) Disagreed (D) and Strongly Disagreed (SD). The questionnaire consists of three sections, i.e. section A, B and C. Section A, introduction, Section B, Demographic information of the respondent while sections C takes Students opinion. The questionnaire was Adopted from Basil (e'tal, 2020), (Edem and Ekon 2020; Muhammad, Isiyaka and Nwocha, 2022).

Validity of the Instrument

Ten (10) copies of instrument were submitted to experts for validation, based on their observations the corrections were made anditems were modified.

Reliability of the Research instrument

For the reliability of the instrument, 15 questionnaires were administered to some Students at Shehu Shagari College of Education Sokoto who were not part of the study for pilot test and result was used to obtained the reliability index of 0.81.

Administration of the Instrument

The instrument was administered on a face to face base so as to ensure maximum return. This was done by the researchers.

RESULTS

Data Analysis

The data collected was analysed using simple descriptive statistics of Percentage counts, mean and standard deviation to answer the foregoing research questions as follows:

Research question one: What is the Level of Basic Technological Skills Possessed by Computer Science Students in colleges of education Sokoto for independent Learning?

The results from table 3 below (Knowledge of MS-Word) on ICT Skills possessed by Computer Science students for independent learning revealed that, 78% of the participants has a positive responses base on the items provided than 22% with negative.

Table 3. Frequency and Percentage on Technological Skills possessed by students

S/N	Items	Yes	No
	Skills on word processing		
1	I have appropriate skills in using MS-Word	43(74%)	15(26%)
2	I can create a file in MS-Word	40(69%)	18(31%)
3	I have adequate skills to type my assignments using MS-Word	42(72%)	16(28%)
4	I can save a file in MS-Word	55(95%)	3(5%)
	Cumulative Percentage	78%	22%
	Skills on power point		
5	I have the skills to use Power Point	40(69%)	18(31%)
6	I have the skills to make Presentation using power point	37(64%)	21(36%)
7	Power Point Simplify Learning as it concretizes abstract Concepts teaching	49(84%)	9(16%)
8	I can Summarize Large information as Learn to Present Key Points	38(66%)	20(34%)
	Cumulative Percentage	71%	29%
	Skills on excel		
9	I can input data/information in to Excel	15(26%)	43(74%)
10	I have the Skills to perform basic Operation	11(19%)	47(81%)
11	I can create a file in MS-Excel	13(22%)	45(78%)
12	I can insert row/column cell either above or below	28(48%)	30(52%)
	Cumulative Percentage	29%	71%
	Skills on internet		
13	I have Learn so many things on social media Flat form	43(74%)	15(26%)
14	I can search for my assignment on the internet	39(67%)	19(33%)
15	I can down load PDF files from the internet	35(60%)	23(40%)
16	I can send an Email to my Lecturer	47(81%)	11(19%)
	Cumulative Percentage	71%	29%

Table 4. Mean and Standard Deviation of ICT skills possessed by Computer Science students based on gender

Group	N	Mean	STD	Mean Difference
Male	38	3.3	0.9	0.7
Female	20	2.6	1.2	

Table 5. Students opinion in Utilising Basic Technological Skills for Learning

S/N	Items	SD	D	A	SA	Total	M	STD	DC
1	Basic Technological Skills helps students to learn with ease.	15	05	10	28	58	2.88	1.26	A
2	It's changes the mind of students in Educational Development.	08	05	15	30	58	3.16	1.06	A
3	It's enhances comprehension and Retention of knowledge	06	02	14	36	58	3.31	0.96	A
4	It's serve as a cornerstone of many courses to achieve excellence	03	06	17	32	58	3.34	0.86	A
	Average Mean and Average STD						3.17	1.04	A

Disagree (D) = (1.5-2.49); Agree (A) = (2.50-4.00)

As a result, it indicated that, Computer Science Students at Colleges of Education have sufficient knowledge of MS-Word to enable them to learn efficiently. Similarly, (Knowledge of PowerPoint), the percentage replies with the positive responses were 71%, which is higher than that of 29% with negative, indicating that students in Colleges of education have PowerPoint knowledge. Moreover, (Knowledge on Excel) Possessed by Computer Science Students, it revealed that, most of the students do not have knowledge of Excel as 71% of the participants shows a negative response with greater majority than 29% with positive. However, on Knowledge of the internet, it revealed that, most of the Students have a higher positive response of 71% than 29% with negative. This indicated that, Computer Science Students have knowledge of the internet that help them for successful learning.

Research Question two: Does the Basic Technological Skills Possessed by Computer Science Students differs base on gender?

Table 4 above shows that; the mean of the male Computer Science Students is only slightly different from that of their female counterparts. However, both means of the male and female students show that, the Computer Science Students at Colleges of Education Sokoto State possess adequate ICT skills that enable them to learn effectively.

Research Question 3: Is there any benefit in utilising the Basic Technological Skills Relevant for Effective Learning?

Table 5 shows that Students expressed positive opinion on the items raised. This indicated the participants agreed on the benefit in utilising Basic Technological Skills for effective Learning as agreed with the items seeking their responses. The average mean was 3.17 which was above the mean criterion of 2.50. This indicated, utilising Basic Technological Skills possessed by Students' Relevant for effective learning has lots of benefit. The standard deviation was relatively high which implies that the respondents' responses revolved above the mean.

DISCUSSION OF FINDINDS

The study revealed that, Students were familiar with Some Basic Technological Skills such as: Microsoft World, PowerPoint, and the Internet representing 78%, 71% and and 71% respectively which considered as the highs number of students with positive responses as indicated in table3, only that they were not familiar with Excel which shows71% with negative responses. This demonstrates the importance of these skills for efficient learning in the digital age. This is also supports the findings of a study conducted by Siddiquah and Salim (2017), which found that students have fundamental ICT

abilities such as MS Word, MS Power Point, searching and surfing the internet. This agreement is likely owing to the fact that information and communication technology (ICT) has been identified as the driving force of the modern era and has been shown to improve learning. Table 4 demonstrated that there was no difference in ICT skills between male and female students, indicating that learning would be easier for both. This indicates that all genders recognize the importance of ICT in enhancing learning. This is contrary to the findings of (Basri, Aladejani, and Almadani, 2018), who found that females are more likely than males to adopt ICT. This discrepancy could be related to the fact that the studies were conducted in separate locations. However, on the benefit in utilising Basic Technological Skills Relevant for effective Learning by Students, table 5, revealed that, Basic Technological Skills has lots of benefitas it's serve as a cornerstone of many courses to achieve excellence. This is also confirmed with the findings of (Edem and Ekon 2020; Muhammad, Isiyaka and Nwocha, 2022).

Conclusion

Thestudy looked into the Appraisal of Basic Technological Skills Possessed by Computer Science Students for independent Learning in Colleges of Education Sokoto State, Nigeria. The study's conclusion is that Computer Science Students in Colleges of Education have ICT abilities that are beneficial to easy learning among them. Similarly, students' abilities do not differ considerably based on gender, indicating that gender has no bearing on male and female students' ICT capabilities. Technological skills, on the other hand, will assist them to succeed academically.

Recommendations

1. Students should be encouraged to develop their knowledge and ICT Related Skills by providing necessary and appropriate ICT facilities by the Government within the Colleges of Education Setting.
2. There should be periodical training on the utilisation of ICT related tools in teaching through workshops, Seminars, in house training e.t.c
3. School Management should ensure that, resources generated for School growth and ICT improvement are properly utilized.

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