

An Investigation of the Students Attitude towards Introductory Computer Course at Bauchi Metropolitan Universities: An Undergraduates Survey

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Abstract

This study investigates the students' attitude on the introductory computer course at Bauchi Metropolitan University. Bauch State is one of the 36 States in Nigerialocated in the North East Region of the country with only Two Public Universities, ATBU and BASUG. Inboth universities it is mandatory for students to undertake introductory computer course in their first year entry to the university and this research was conductedwith the aim to find out the students attitude toward the computer course as part of the requirement to their studies. This study uses a sample of 300 undergraduate students (male=188, female=110) students. Primary data were utilized where questionnaire was employ as the tool of data collection. Computer attitude related questionnaire was developed and administered to the respondents and retrieved. Frequencies and Percentages was used to analyzed the respondents demographic information and questions asked while the chi-square X^2 analysis was employ to test the stated hypothesis. The result of this study shows that students had positive attitude toward

introductory computer course as the calculated chi-square X_c^2 is 0.253 which is less than the tabulated

chi-square X_t^2 of 3.84/i.e. $X_c^2 < X_t^2$. therefore the study conclude that students had significant and

positive attitude toward introductory computer course at Bauchi metropolitan university and we recommends that priority attention in terms of computer practical session should be given to students to increase their likeness of the computer and adequate arrangements should be made by universities to ensure students have access to computer and the internet whenever needed within the campus area and this will also mould a positive attitude for students.

Keywords: Computer, Attitude, Universities, Metropolitan, Bauchi.

1. Introduction

In today's modern world it is becoming imperative for students to understand how computer works and assist in the area of everyday learning. It is an obvious fact that the traditional context of teaching and learning is experiencing a radical change due to the advent of information technology. Student's nowadays regardless of their course of study need to acquaint themselves with elementary computer knowledge especially those in the fields of general sciences, management, social sciences and languages etc.

Therefore, it is essential and necessary for undergraduate's students to become computer literate because of the stringent requirements of some employers of labour as a precondition for successful employment ticket. The same way, the knowledge is necessary also for socialisation and professional career development and achievement. For this reason education, being an important factor in society development plays an essential role in addressing the issue of computer literacy. Therefore, the knowledge of computer is of paramount importance and cannot be disregarded Mohd et al [(2007)].

As we notice the concrete role computers plays in the society, priorities have been accorded to computer skills by universities, colleges, polytechnics, business organizations, government ministries, parastatals and agencies (MDA's) as well as secondary schools. Computer has the capacity to accept data as input, process the data and give out result or information as output.

Similarly, Computers provide work speed, work efficiency, work power and removal of human error from work activities. With this brief explanation we understand that human activities now demands computer knowledge and skills in almost all endeavors. This knowledge and skills required in most human activities ranging from shopping to working, e-commerce, e-voting, e-governance etc. This pave way why right from secondary to tertiary levels of education learners are exposed to computer education. [Osman & Alfred 2014].

However, the introductory computer course in universities was mainly developed to introduce students to elementary concepts of computers such as history/evolution of computers, software and hardware, computer organogram, computer flowcharting, computer arithmetic and computer data capture, data validation and data transmission and the introduction to internet usage etc.

While computers make it easy for both learning and business activities to be conducted. Student's attitudes on the other hand are also an important point to be considered for the success in making students to understand how to use computer.

According to oxford dictionary, the word "Attitudes" refers to someone state of mind. That is to say someone state of mind toward something. All the same, Bebetos & Antoniou [2013] sees attitudes as a personal factor as one's positive or negative judgments about a concrete subject. On the other hand, Aizen [1988] specifies the word 'attitude' as an inclination which can be taught and can make people react to a matter either in a positive or negative way. Attitudes can be taught either through imminent experience or by other people. Many authors discussed about students attitudes to learning because of the fact that attitude is the major determining factor in predicting people behaviours [Yushau 2006]. Undoubtedly we can rightly say that attitude reflect the way people think of, feel and intend to react under certain circumstances. Therefore, this research work sees attitudes as a paradigm or a reflection of someone feelings toward something.

The primary purpose of this article is to ascertain undergraduates students attitudes toward learning introductory computer course at universities normally at their first year of one hundred level entry.

1.1. Objectives of the Research

This research paper intends to achieve the following objectives

- What are the undergraduate students' attitudes toward introductory computer course

- To determine the students interest on the introductory computer course
- To access how the computer knowledge will assist undergraduate students on their learning activities
- To access how the computer knowledge will be beneficial to the students before and after school graduation.

1.2 Problem Statement

Obviously Computer knowledge is universally becoming a necessity in this modern technological age because of the changes in business and organizational environment. Students at tertiary institutions need to embrace computer with positive attitude and seriousness. Learning introductory computer course at university demands positive attitude from students, however, a common problem observed is the negative attitudes of students towards computer. So also unseriousness, lack of interest and taking the course for granted are reasons that prompted this research article and therefore the need to investigate the students attitudes toward introductory computer course at Bauchi Metropolitan Universities.

1.3 Research Questions

The following research questions have been formulated

- Does an introductory computer course change a student attitude toward learning computer?
- Does Student Interest and view change a person attitude toward computer?
- Does a teacher efficacy change a student attitude toward computer?
- Does O' Level school attended affect a student attitude toward computer?

In this paper we seek to shed more light on the issue of whether student's attitudes and introductory computer course have any relationship. To achieve this null and alternate hypothesis are developed.

H₀: Undergraduate students' have negative attitude toward introductory computer course.

H₀₁: Undergraduate students have positive attitude toward introductory computer course.

The rest of the paper will be in the following order. Section two is the conceptual and theoretical framework, followed by section three which is methodology, and sections four and five are data analysis and discussion, conclusion and recommendations.

2. Theoretical Framework

2.1 The Concept of Computer

In Today global environment computers have changed the way business and government activities had been carried out. Irrespective of course of studies, all students will need to know how to work with computer and learn the basic computer softwares such as MS word, Ms excel and MS power point. For students to become computer knowledgeable, a computer course is normally introduce in the two Bauchi metropolitan universities for all first year entry students as a general and compulsory course. This course are been made part of the rigorous training that each student is required to partake and may help the students to secure quality employment in his/her field after graduation.

Computer refers to an electronic device capable of accepting input(data) process the input and give the output(information) as a result of that processing under some programs stored. In a similar vein, it can also be seen as an electronic device that can perform a variety of operations in accordance with a set of instructions called programme(Aisha 2015).

It accepts data from the user, converts the data into information and gives the desired result. Different problems requires different solutions of computer, Therefore, this research work view computer as an electronic machine that is defined in terms of its functions. Computer is better than human due its high processing power, versatility, speed, accuracy etc it can execute huge volume of activities within a shortest possible time. These

features are what make businesses to embrace the use of computers in day to day activities.

It is obvious that computers have been apply in many field effectively to assist solve complex problems. Recently, modern day computers have made their presence felt in industry and government business in the area of economic planning and forecasting (Reference).

2.2 The Concept of Attitude

Attitude is a determining factor in predicting people behaviors [Yushau 2006]. Attitude refers to someone state of mind toward something, or the way a person react/ behave toward a particular thing. Kassin(2008) defines attitudes as relatively enduring beliefs or opinions that predispose people to act in a positive, negative, or ambivalent way to a person, object, or idea. It is a beliefs tha influence the action of a person toward something.

Attitude also refers to an inner psychic state influencing behaviour (Diana, Gediminas & Gintaras 2005). Therefore, we can understand an inner state from actions and words. For instance, we may presume that a person actively avoiding a computer has a negative attitude towards it and a person that likes to work with computer has a positive attitude toward it. Attitudemainly depends upon a person experience and its change is possible due to the internal and external factors. However, attitude play an important role in determining student behaviour toward an introductory computer course and this research work will investigate the student's attitudes toward learning the introductory computer course at Bauchi metropolitan universities.

2.3 The Relevant of Computer Knowledge to Human Activities

Computer is an information processor capable of performing some computations, including numerous arithmetical and logic operations without human intervention [Hamid K.T 2014]. Computer knowledge is a critical factor which should not be disregarded Mohd et al (2007). Globally the knowledge of computer is essential in all aspect of business transactions and its role in making business activities easy cannot be overemphasized. Therefore, for students to be relevant in today labour market they need to acquired basic computer knowledge.

It is a fact that the world itself is becoming technologically derived [Osman & Alfred 2014] In this information and technology age, job requirements are changing and employees need to develop skills and competencies required by the job market (Nsiah-Gyabaah, 2011).

Senzige and Sarukesi (2001) contend that the globaleconomy is becoming a network and knowledge-based economy and that the computer knowledge gaps contribute to the economic gaps.

Nowadays, a lot of human activities such as e-commerce, e-learning, e-voting, e-shopping, e-booking etc are carried out through the use of computers. We understand that people who possess computer knowledge are tending to understand the economy better. As a result of increasing needs of computer in most human endeavors education area is not left out as monotonous work, tiredness and other associated clerical problems in business environment since the introduction of computer these problems are minimized (REFERENCE). Therefore, in today business arena, no business can survive without the use of computer.

Computers play an important role in many areas for instance in the area of education, it support and facilitate research, reading, teaching and learning [2015] writing, listening and speaking activities. In addition, computers contribute beneficially to learning and development [Trundle, & Bell, 2011]. In the area of science and technology, robotics and nucleartechnology is of good example as computers replace a lot of manual functions in industries. In the same vein in the area of financial sector, information technology renders a helping hand through computers to the financial institutions and so also in the area of environmental management, metrological information are easily gotten with the use of computers.

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Based on these activities the importance of computer skills has long been a topic of concern for business firms, governments, schools, colleges and universities. Much of the concern arises because of the importance effective computer knowledge to the sectors.

Technology provides us to know and follow all issues with keen interest through computers [Isman et al 2004]. There is a concrete role of computer technology in the society and schools as they provide work speed, work efficiency, work power and removal of human error from work activities. With these it is obvious that computers render a helping hand to ease day-to-day human activities.

2.4 Background of the Bauchi Metropolitan Universities

Bauchi state is a one of the state in Nigeria situated in the North East Region of the country with vast and arable land area of about 54,926 Sq. Km and a population of about 9,000,000 Million People approximately. The state is blessed with natural resources especially non-minerals deposit and recently a mineral deposit was discovered in the state. Bauchi State has been blessed with two universities namely Abubakar Tafawa Balewa Univeristy [ATBU] and Bauchi State University Gadau [BASUG]. The ATBU is located in the Bauchi Metropolyan approxiamately has a xxx of students while the BASUG is operating multiple campus with its Main campus located in Gadau Town, Itas Gadau Local Government Area of Bauchi State and a law Faculty in Misau and Management and Social Sciences Faculty located in the capital city of Bauchi State.

However, the two universities offered introductory computer course irrespective of student course of study in their first year entry students to acquaints the students with the reality of the modern teaching and learning and to prepare the to be competitive after graduation. Therefore, this research considered it necessary because of the importance of computer knowledge to society to investigate the undergraduate students' attitudes towards learning this introductory computer course at the two universities.

2.5 Introductory Computer Course at Bauchi Metropolitan Universities

Computer is an advanced electronic device that takes raw data as input from the user and processes these data under the control of set of instructions [called program]and gives the result [output] and saves output for the future use [Hamid K. T. 2014]. The introductory computer course at Bauchi Metropolitan Universities was introduced mainly to brace up students to appreciates the computer knowledge and to primarily prepared them to embrace the penetration of information technology in the area of research, teaching and learning and most importantly to prepare them with the realities of what is obtainable in the working place either private, government or non-governmental organization after graduation. This course is therefore, designed to introduce students to the definition and historical development of computer and its application in business, types and categories of computers, computer storage, memory, input and output devices, computer application in business world, pure sciences and management sciences, data capture, data transmission and validation, introduction to Microsoft word, excel and introduction to internet, payroll and accounting system and sales process applications and system analysis and design.

Based on these areas to be covered in this course, it is therefore, expected that on completion of the course, students should be able to:

- Understand the definition of computer; understand the historical development of computer.
- Know the why and how of computers.
- Know the different types of computers and their uses and application in business and sciences.
- Understand computer storage, input and output devices.
- Understand data capture, transmission, nature, validation and error detection.
- Appreciate the applications of computer in accounting and finance.

- Understand transaction data, master data, payroll and accounting system.
- Understand data transmission, nature and speed of computer.
- Understand how to work with Microsoft word and excel, know sales process applications like POS and online sales processing and understand system analysis and design.

2.6 Review of Empirical Studies on the Computer and Attitudes

Table 1: Summary of Some Empirical Studies on the Computer and Attitude

Author(s)/Date	Country	Title of the study & Scope	Research Methodology	Major Variables Used	Significant Findings
Isman et al [2004]	Turkey	Attitudes of Students toward Computers [2002-2003]	Survey Questionnaire	Students characteristics and students perception	Positive attitude toward computers
Kitchakarn [2015]	O. Thailand	Learners' Attitudes towards Using Computers as a Learning Tool in Language Learning	Survey Questionnaire	Students perceived abilities and Students Gender	positive attitudes towards computers as learning tool.
Magesh [2016]	G. Vellore	A Review Paper: Student Attitude towards Computer Science [1997-2015]	Descriptive Statistics	Media education & Human-computer interface	The review found that majority of the students had positive attitude towards computer science subjects
Osman & Alfred [2014]	Ghana	Understanding Student Attitude Towards Computer Education: A Survey of SHS in the Sunyani Municipality	Survey Questionnaire	Gender, access to computer	Female students demonstrate more positive attitudes toward learning of ICT than their male Counterparts & Majority of the students do not have access to computers at home
Santillan et al [2013]	Mexico	Attitude Behavioral And Among Students, Computers	Survey Questionnaire & Correlation	Gender Procedency & Age	Computer help to understand students attitudes

			And Mathematics: (A Case Study In PublicUniversity)	Matrix		toward mathematics
Diana, Gediminas & Gintaras [2005]	Dublin	Students' Attitudes towards Computer: Statistical Types and their Relationship with Computer Literacy	Survey Questionnaire	Student and studies	and &	The study data has revealed that students having formed a positive contact with a computer usually demonstrate higher computer literacy level, whereas persons expressing a negative attitude are of lower computer literacy level.
Amoo, Hambali, & Amoo [2013]	Nigeria	Students' Attitudes toward Computer Studies: A Study of SchoolNet, Nigeria.	Survey Questionnaire	Bio data & Computer attitude scale	&	All the students had positive attitudes to computer studies
Chun-Chu Liu [2012]	Taiwan	Factors that Influence Students Learning Attitudes toward Computer Courses for Technology and Vocational Institute Students in Taiwan	Survey Questionnaire	Internal learning motivators (interest, employment & trend) & external learning environments (home & school)		The results shows that the interest motivation & the school environment, employment, had direct most significant effect on subjects' learning attitudes & trend variables has a negative effect
Colin & Barbara [2013]	Rzeszow	An examination of students' attitudes and	DirectSurvey, Observations	Computer competency		The results confirm that

		preparedness for the introduction of ICT-enabled learning at university	& Spearman Rank Order Correlation rho			students with a higher appraisal of their competence were more positively inclined towards a wider use of ICT than those with lower levels of competence.
Bebetsos & Antoniou [2013]	Greek	University students differences on attitudes towards computer use. Comparison with students attitudes towards physical activity	The questionnaire, diary on Computer Attitude Scale	Computer emotion Perceived usefulness perceived control behavioural		The result shows that there were statistical significant differences on two variables due to gender, perceived usefulness and affective. More specifically, men were more positive to use computers than women.
Hong, Ridzuan & Kuek [2003]	Malaysia	Students' attitudes toward the use of the Internet for learning: A study at a university in Malaysia	t-test one way Anova	Basic internet knowledge. Learning environment		Results from the study indicated that students had positive attitudes toward using the Internet as a learning tool
Taragola & Lierde [2015]	Belgium	Adoption of Computers, Internet and Accounting Software at The Glasshouse Holdings of The Belgian Farm Accountancy Network	Personal Interview & Questionnaire	Age Educational Computer training Personal objective Firm type Business Goals		Adoption of internet, computers and accounting department is positively related to computer training of the firm manager, creativity

							and innovation, growth stabilisation and negatively related to intrinsic objectives.
Barrier Margavio [2014]	& USA	Pretest-Posttest measure of introductory computer students attitudes toward computers	Descriptive of statistics correlation analysis	Computer skills No prior computer experience Prior computer experience	Students have a more negative attitude toward computers after taking an introductory class now than before		
Kofi Arthur (2010)	Ayebi-Cape Coast	To investigate if statistical relationship existed between academic achievement and achievement of students in ICT	Spearman correlation, means, standard deviation and multiple regression analysis	Academic achievement & achievement of students in ICT	This study found Both set of students showed positive attitudes toward ICT		

Source: Researcher Findings [2017]

3. Research Methodology

3.1 Research Design and Instrument

This study used survey research design; primary data were obtained from the respondents by using survey questionnaire. The researcher with the help of the students administered the questionnaire and it was designed in two sections, the first section is demographic section and the second one carries general questions pertaining computer studies and attitudes toward computer. The questionnaire were designed with a 5-point Likert scale (5 = strongly agree; 4 = agree; 3 = undecided; 2 = disagree; 1 = strongly disagree) to determine students agreement with each statement on the questionnaire. However, data obtained from the respondents were analyzed using the chi-square method and percentage analysis and the rationale of using percentage to further analyze the data was very much emphasize by Asika (2004).

The survey questionnaire was administered toward the end of the semester to observe if there is a change in the undergraduate students attitudes toward computers because in the Bauchi metropolitan universities (Bauchi State University & Abubakar Tafawa Balewa University) it is compulsory for all new intake students at their first year of entry to offer introductory computer course in the universities.

3.2 Population and Sample of the Study

The target populations for this study includes all the undergraduate students at Bauchi Metropolitan universities that are offering introductory computer course and a convenience sampling technique was adopted were 50

students were selected (25 students from Bauchi State University Gadau and 25 students from Abubakar Tafawa Balewa University Bauchi.

4. Analysis and Results

4.1 Analysis of Respondents According to Personal Information

Table 2: Descriptive Statistics of Respondents

Personal Information	Frequency [298]	Percentage [%]
Sex		
Male	188	62.6
Female	110	36.6
Department		
Accounting	22	7.33
Business Administration	26	8.67
Agriculture	18	6.00
Engineering	21	7.00
Environmental	20	6.67
Education	40	13.33
Economic	25	8.33
Public administration	25	8.33
Political science	33	11.00
Medical sciences	7	2.33
Mathematics	10	3.33
Religious studies	20	6.67
sociology	31	10.33
University		
A.T.B.U	148	49.33
BASUG	150	50.00
Computer Ownership		
YES	95	31.67
NO	67	67.00
Years of Comp Experience		
1-2	48	16.00
3-4	36	12.00
5-6	10	3.33
7-8	6	2.00
9-10	0	0.00
10 and above	0	0.00

Source: [Raw data questionnaire 2017]

From the descriptive table above, it can be deduced that [188] respondents are male which represents [62.6%] while [110] respondents are female which constitutes [36.6%] this shows that there are more of male students in the both universities [A.T.B.U & BASUG] than female students and this is because of the number of male that

tends to pursue degree qualification more than the female ones. However, looking at the departments the education is having the highest respondent which is 40 and this represents [13.33%] and medical sciences is having the least which 7 respondents and this is only [2.33%] of the respondents. The A.T.B.U respondents were only able to return 148 filled questionnaire with [49.33%] of the total respondents and the BASUG respondents filled and returned all with 150 that constitutes [50%] of the respondents.

Conversely respondents with computer ownership occupy [31.7%] and those with those with no computer ownership constitute about [67%]. This shows that majority of the students do not possess personal computer. Lastly respondents with 1-2 years of computer experience are having the highest percentage as [16%] while no students is having computer experience of up to 9-10 years, this tells us that all the students access are having computer experience of only 1-6 years.

4.2 Presentation and Analysis of Data from Research Questionnaire

4.2.1 Frequencies of Individual Items

Responses from the questionnaire indicating strongly agree, agree, undecided, disagree and strongly disagree were analysed and presented.

Table 3: Frequencies and Percentages of Individual Items on Computer Knowledge and Attitude

Computer Knowledge & Attitude Questions	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Do you think computer helps in your study	198	66	100	34	0	0.00	0	0.00	0	0.00
Do you think all students need to learn basic computer knowledge	150	50	148	49.6	0	0.00	0	0.00	0	0.00
Do you love attending an introductory computer class	124	41.6	125	42	49	16	0	0.00	0	0.00
Students have enough skills to use computer	50	17	100	34	25	8	123	41	0	0.00
Students are interested to engage themselves with computers	74	25	100	34	75	25	49	16	0	0.00
Do you think students use computers to do their academic assignment	75	25	223	75	0	0.00	0	0.00	0	0.00
Computer knowledge increase students chances of findings	75	25	150	50	50	17	23	8	0	0.00

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good job											
Do you think students become successful in introduction of computer course	73	24	150	50	25	9	50	17	0	0.00	
Do you think students like to read computer related books	23	8	100	33	125	42	50	17	0	0.00	
Do you think students get good grade in introduction of computer course	50	17	100	33	25	9	100	33	23	8	
Do you take a long time to understand computer course	25	9	100	33	50	17	123	41	0	0.00	
It is difficult for students to learn computers	23	8	50	17	100	33	75	25	50	17	
Every student should know how to use computer	125	42	98	33	25	8	0	0.00	50	17	
Students were engage in practical computer session in introduction to computer class	75	25	125	42	23	8	50	17	25	9	
Introductory computer course lecturers teach effectively and efficiently	75	25	198	66	25	9	0	0.00	0	0.00	
Computer is a reliable and effective way to obtain information and knowledge	198	66	50	16	25	9	25	9	0	0.00	
Proper and enough time have been allocated to introduction of computer class	123	41	50	17	25	9	100	33	0	0.00	
I can do my research for resources and	148	50	125	42	25	8	0	0.00	0	0.00	

information through computer											
Computer lecturers regularly ask students to use computers at their free time	123	41	150	50	0	0.00	25	9	0	0.00	
I can learn more things effectively about all subjects with the help of computers	173	58	100	33	0	0.00	25	9	0	0.00	

Source: [Questionnaire Survey 2017]

4.2.2 Chi-Square (X²)

Table 4: chi-square contingency table

OF	EF	(OF-EF)	(OF-EF) ²	$\frac{(OF - EF)^2}{EF}$
38	37	1	1	0.027
50	50	0	0	0.000
37	37.5	0.5	0.25	0.007
25	24.5	0.5	0.25	0.010
35	33	2	4	0.121
46	45	1	1	0.022
43	42	1	1	0.023
24	23	1	1	0.043
0	0	0	0	
				$X_c^2 = 0.253$

Source:[Questionnaire survey 2017]

$$X^2 = \sum \left(\frac{OF - EF}{EF} \right)$$

$$X_c^2 = 0.253$$

$$X_t^2 = 3.841 @ (\text{level of significance}) = 0.05$$

Degree of freedom =1
 $\longrightarrow 3.841 > 0.253$

Decision

From the above- calculated chi-square (X_c^2) is 0.253 which is less than the tabulated Chi-square

$$(X_c^2) 3.841. \text{ i.e. } X_c^2 < X_t^2.$$

Since the calculated Chi-square is less than the tabulated Chi-square we reject the null hypothesis which says undergraduate students' have negative attitude toward introductory computer course and accept the alternate hypothesis that says undergraduate students' have positive attitude toward introductory computer course.

5. Conclusion and Recommendation

Computer has the ability to make life simple in our day to day activities. Positive attitude toward introductory computer course is the likeness of the course and keen interest in using computer while negative attitudes towards a computer includes students considering a computer as a source of weariness, stress, dissatisfaction. As the world is a competitive place University students' need to have basic computer knowledge irrespective of their course of studies. In Bauchi metropolitan universities [ATBU & BASUG]. It is mandatory for students to undergo an introductory computer course so as to equip students with basic computer skills and hence the need to ensure undergraduate students develop positive computer attitude and prevent students' from developing computer-hostile attitudes.

Based on the findings of this study we therefore, conclude that undergraduate students' at bauchi metropolitan universities shows positive attitude toward introductory computer course as such we can say there is positive and significant attitude by students toward introductory computer course at Bauchi metropolitan universities and this result is in linewith the findings of Norzaidi.et al [2007], Amoo & Hambali [2013], Osman & Alfred [2014], but however, contravene the result of Barrier & Margavio [2007]. This study recommends that students' should be given priority attention in terms of computer practical session to increase their likeness of the computer and proper and adequate arrangements should be made by universities to ensure students have access to computer and the internet whenever needed within the campus area and this will also mould a positive attitude for students.

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