

**AN INVESTIGATION INTO SECONDARY SCHOOL STUDENTS' ATTITUDE
TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY
ADOPTION AND USAGE**

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Abstract

This paper examined the attitude of students to ICT in selected secondary schools in Ibadan North Local Government Area of Oyo State. In this study, 250 students were selected from 13 secondary schools. 120 were males and 130 were females. The instruments used had 25 statements relating to measurement of student's attitude to ICT. There were 11 negative questions and 14 positive questions in the survey instrument used. The validated questionnaire was subjected to Cronbach's Alpha reliability tool that yielded a value of 0.73. The research instrument used was Secondary School Students Attitude towards ICT Adoption and Usage Questionnaire (SSSAIAUQ). It was discovered that there was no significant difference between the male and female secondary school students' attitude to ICT adoption and usage. Male students had a stronger positive attitude towards ICT usage with their female counterparts. Besides, students from urban schools had an equal positive attitude towards ICT usage than students from rural schools. Some of the recommendations are that National Policy on technological development should be put in place to assist in the proper take off development programme on ICT for the present generation. Accessibility to scientific data via internet and worldwide websites should be part of immediate step to be taken to improve the information needs and consciousness of the people. Younger people should be empowered through various programmes in the anticipation of the challenges in information and communication technology as a drive for a purposeful creativity.

Introduction

Recent developments in Information and Communication Technology (ICT) have led to global village and indeed a revolution as important as the industrial revolution which now dictates the pace in world development. Information technology represents major opportunity for developing countries that can be accessed and used efficiently and effectively as a threat to those who cannot. Information technology cannot function effectively without special attention given to reliable telecommunication as the main configuration of technology. Hence, in order to achieve maximum benefit, government must organize a well coordinated ICT programme which should be a national priority especially in this era of information explosion. So, infrastructural facilities such as electricity supply and reliable telecommunication must be some of this area of priority.

In this computer age, science and technology have eventually taken man beyond his wildest imagination. Its impact becomes so great in science and technology that man is beginning to be so effective, utilizing the principle of doing and bio-genetic engineering. Scientists have been able to replicate a mammal. Thus, the technological hold of any nation determines its position in the community of nations. So, in order for Nigeria to take its place as a leader in Africa, there is need for the country to embrace the study of the sciences and most especially, the study of computer in secondary schools.

Bishan and Wood (1999) and UNESCO (2000) postulated that sound decision about the use and application of information and communication policies would be facilitated where there is a national communication policy and a policy for educational communication within it. This national policy will take into consideration linguistic and cultural issues. It will also take into consideration the use to be made by the education service of the new technologies and of education's roles in providing education about them.

According to Okwilagwe and Nwokeafor (2001) information is source awareness, possession and usage of which result in effective decision making, uncertainty reduction as well as the overall organisation functioning. This is why information has to be communicated to the human element who form a major component for the realization of goals and objectives of an organization. The

usefulness of information resides in its characteristic nature of being an indispensable tool in the communication process.

The expanding of educational institutions and the increasing societal demands for more result oriented educational institutions have made the duties of the teachers and students to be more critical in organizational behaviour. Hence, there is corresponding need for more pragmatic motivational designs that will improve the job performance of teachers and students. For example, the use of audio, video, electronic mail, fax and computers can be used for effective combination with the print. The use of these media facilitates more interactive teaching between the learners and the instructors, gives immediate up-to-date information, and provides mass distribution of knowledge.

Daniel and Christopher (1999) said that technology is known to promote both lifelong and life wide learning. This is happening in the developed as well as developing countries, as electronic technologies such as computers, wireless communication equipments and videotapes are fast being introduced into elementary, secondary and tertiary institutions of learning. These ICT gadgets can be found in mostly private schools. Although it is believed that technology based on internet is expensive in this part of the world. A lot of people in Nigeria as in the developed countries already have the technology.

The era of change emanating from the electronic applications challenged the olden days' process of teaching and learning and the way education is managed. According to Alaba (2010) electronic applications are some of the various factors that are drastically influencing occupational success especially in the education sector. This was collaborated by Volman and Van (2001) who said that the use of electronic appliances create a powerful learning environment and it transforms the learning and teaching process in which students deal with knowledge in an active, self directed and constructive way.

Ofodu (2007) stated that through electronic application, educational needs have been met; the needs of education as well as the potential processes are changed. Message can be communicated through the e-mail, telex or telephone particularly the mobile ones. The field of education has certainly been affected by the penetrating influence of electronic applications worldwide and in particular developed countries.

The Economic Transformation Blueprint (2009) stated that in order to ensure that Nigeria is not left out in the technological age, one of the strategic objectives of Nigeria Vision 20:2020 (NV20:2020) will be to promote development of local capacity to meet the needs of the electronic applications and Information and Communication Technology (ICT) sectors in developing an industrial based economy and ensuring the continued development and availability of affordable electronic application and ICT infrastructure and services. This will help to prepare the nation to take advantage of global opportunities leading to enhanced global competitiveness.

Some of the strategic initiatives the blueprint recommends to drive the implementation of the electronic applications and ICT sector include the review of the education curricula at all levels to integrate ICT and electronic applications assisted learning and introduce a working knowledge of basic computing as a minimum requirement for graduation from secondary and tertiary institutions of learning with a view to increasing the computer literacy rate or penetration by 50% in 2015 and 80% in 2020.

Therefore, the present study investigated into secondary school student attitude towards ICT adoption and usage.

Statement of the Problem

This research was embarked upon to investigate into secondary school students' attitude towards ICT adoption and usage in 13 secondary schools in the urban and rural areas of Ibadan North Local Government Area of Oyo State in Nigeria. The researcher also investigated whether gender differences affect students' attitudes towards ICT usage.

Purpose of the Study

The purpose of this study is to determine whether gender differences affect students' attitude to the ICT adoption and usage. It also investigated whether there is a correlation between schools' location and students' attitude towards ICT adaptation and usage.

Research Questions

The following research questions were answered in the study

1. What is the attitude of secondary school students' towards ICT adoption and usage?

2. Is there significant difference between the secondary school students' attitude towards ICT adoption and usage based on gender?
3. Is there significant difference between the secondary school students' attitude towards ICT adoption and usage based on location?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

- H₀₁:** There is no significant difference between secondary school students' attitude towards ICT adoption and usage;
- H₀₂:** There is no significant difference between secondary school students' attitude towards ICT adoption and usage based on gender;
- H₀₃:** There is no significant difference between secondary school students' attitude towards ICT adoption and usage based on location.

Research Methodology

This research was carried out using survey method. The information gathered was based on questionnaire. The research instrument used was Secondary School Students' Attitude towards ICT Adoption and Usage Questionnaire (SSSAIAUQ) which was validated by experts in Guidance and Counselling as well as Test and Measurement departments. The validated instrument was subjected to Cronbach's Alpha reliability tool that yielded an index of 0.73. The area of study was Ibadan North Local Government Area of Oyo State. The questionnaire was designed and distributed to students in randomly selected secondary schools in the urban and rural areas of study. In each school, 10 male and 10 female students were selected. They were selected based on perceived intelligent evidenced from their position in the last school examination. The study sample was chosen from the accessible population using sample of convenience.

Result and Discussion

Table 1.0: Socio-Demographic Variables of the Respondents

Variables	Category	Frequency	Percentage (%)
Students' Gender	Male	120	48.0
	Female	130	52.0
	Total	250	100.0
Students' location	Urban	125	50.0
	Rural	125	50.0
	Total	250	100.0

Table 1.0 shows the socio-demographic variables of the respondents. One hundred and twenty (48%) of the respondents were male while the remaining one hundred and thirty (52%) were female school students. More of the respondents were female secondary school students. Based on the students location, one hundred and twenty five (50%) of the respondents were from urban schools while the remaining one hundred and twenty five (50%) were from rural schools. There existed equal representation of the respondents based on location.

Hypotheses Testing

H₀₁: There is no significant difference between secondary school students' attitude towards ICT adoption and usage.

Table 2.0: T-test Analysis of the difference between Secondary School Students' Attitudes towards ICT Adoption

Variables	N	\bar{x}	SD	Df	t-cal	t-tab	Sig.	R
Students' attitude	250	78.24	13.72	249	29.07	1.97	0.002*	*S
ICT Adoption and Usage	250	53.10	16.35					

*Sig. at $p < 0.05$; t-cal = 29.07; α -tab = 1.96; df = 249.

Table 2.0 shows the t-test analysis of the influence of secondary school students' attitude towards ICT adoption and usage. The

calculated t-value of 29.07 was greater than the tabulated α -value of 1.96 at 0.05 level of significance. Therefore, the null hypothesis that says there is no significant influence of secondary school students' attitude towards ICT adoption and usage was not held. This means that the secondary school students' attitude can make or mar ICT adoption and usage in schools.

H0₂: There is no significant influence of secondary school students' attitude towards ICT adoption and usage based on gender.

Table 3.0: T-Test Analysis of the difference between Secondary School Students' Attitude towards ICT Adoption and Usage based on Gender

Attitude towards ICT usage and Adoption	N	\bar{x}	SD	Df	t-cal	t-tab (0.05)	Sig	Remarks
Male	120	77.92	11.49	248	1.69	1.96	0.104	NS
Female	130	78.16	9.74					

Not significant @ $P < 0.05$; $t - cal = 1.69$; $t - tab = 1.96$; $df = 248$.

From table 2.0, the calculated t-value of 1.69 is greater than the tabulated t-value of 1.96 at 0.05 level of significance. Therefore, the null hypothesis that says there is no significant influence of secondary school students' attitude towards ICT adoption and usage based on the gender was held. This means that gender did not significantly influence the attitudes of the secondary school students towards ICT usage and adoption.

H0₃: There is no significant influence of secondary school students' attitude towards ICT adoption and usage based on location.

Table 4.0: T-test Analysis of the difference between Secondary School Students' Attitude towards ICT Adoption and Usage based on Location

Students'	N	\bar{x}	SD	Df	t-cal	t-tab (0.05)	Sig.	Remarks
Urban	12	81.3	8.26	24	17.09	1.96	0.031	*S
	5	5						
Rural	125	75.71	13.57					

Table 4.0 shows the t-test analysis of the influence of secondary school students' attitude towards ICT adoption and usage based on location. The calculated t-value of 17.09 was greater than the tabulated t-value of 1.96 at 0.05 level of significance. Therefore, the null hypothesis that says there is no significant influence of secondary school students' attitude towards ICT adoption and usage based on location was not held. This means that location of the secondary school students whether urban or rural can significantly influence their attitude towards ICT adoption and usage.

Discussion of Findings

The results presented from the analysed data showed that there is no difference in male and female students' attitude towards ICT usage. This agreed with the findings of Ikoyo (2006) and Bovee, Googt, and Meelisen (2007). There was also a divergence between students' attitudes towards computer and their environment. This is to say that the environment or location has influence in the students' attitude towards computer and computer science. This finding corroborated with that of Collis (1987) and Onwachi-Iheagwuna (2012)

The findings of the study also affirmed that there are no significant influence of gender on the students' perception of the usage of electronic applications in the teaching and learning. This result contrasted with the findings of Volman and Van (2001), Hafkin (2002) which identified a more male users of electronic applications in teaching and learning than their female counterparts and that if gender issues were not articulated in ICT cum electronic applications policies, it is unlikely that girls and women will reap the benefits of the information age. Nevertheless, the findings found supports in the

Higher Education Research Institutes (HERI) in the United States of America asserting that the type of gender divide found in the number of students that use new technologies are close with almost an equal percentage of female and male being frequent users of electronic applications in the teaching and learning of science education.

Conclusion

Based on the findings of this study one would conclude that secondary school students both male and female use computer equally at any given time, no disparity. Therefore, the gender of students did not influence their usage of Information Communication Technology (ICT). Although, the location of secondary schools, the students attends influence their usage of ICT. This may not be unconnected with the availability of ICT facilities and power supply in the urban areas in contrast to the rural areas.

Recommendations

From the findings of this study the followings are the recommendations:

- i. National policy on technological development should be put in place to assist in the proper take-off development programme on ICT for the present generation
- ii. Accessibility to scientific data via internet and worldwide websites should be part of immediate step to be taken to improve the information needs and consciousness of the people.
- iii. Younger people should be empowered through various programmes in the anticipation of the challenges in information and communication technology as a drive for a purposeful creativity.
- iv. Power supply should be regular in order to facilitate easy usage of the ICT facilities.

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