

Correlates of Computer Attitude among Secondary School Students in Lagos State, Nigeria

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Abstract

Research have been conducted to study students' attitude towards the computer [computer attitudes], their computer self efficacy and computer anxiety separately. This study was specifically targeted at determining if socio-demographic variables like gender, age and field of study had any effect on these computer parameters among secondary school students. It also explored the possibility of been able to predict students' computer characteristics from computer efficacy, computer anxiety and demographic variables. 600 students were selected by proportionate sampling from the Senior Secondary class III [SS III] of six secondary schools equipped with 40 micro-computer-fitted laboratories by the Nigerian [Lagos state] government. The instrument for the study consisted of two types of questionnaires, one titled "Questionnaire on the computer attitude" was used to obtain a measure of students' computer attitude while another titled "Questionnaire on students computer self efficacy and computer anxiety" was used to measure their computer self efficacy and computer anxiety. The questionnaires were administered by their ICT teachers under the supervision of the researchers. Data analyses were by using t-test, ANOVA, Post-hoc tests and multiple regression. The results showed that gender had no significant influence on any of the three parameters but age seems to affect computer attitude and computer anxiety. Students in the vocational and commercial fields of study had better attitude towards the computer than those in the sciences and arts. In terms of predicting students computer attitudes, fields of study, computer self efficacy, gender and very low levels of computer anxiety were found to be the significant predictors of computer attitude.

Categories and Subject Descriptors: J [Computer Applications] J.4 Social and Behavioral Sciences – Psychology.

General Terms: Computer attitude, Computer self efficacy, computer anxiety.

Additional Keywords and Phrases: Computer characteristics, socio-demographic variables, field of studies, students' attitude toward the computer

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I. INTRODUCTION

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We live in a postmodern society, where information is considered to be an extremely valuable commodity. Those who control important information, or who simply know how to access and use it, are the key players in the information-based economy [Simmons, 2009]. He further argued that, computer literacy and the skills that can be built there from are essential to one's effectiveness in modern societies, not just in our working lives, but in the way we learn, manage our finances, and improve our standard of living.

When it comes to teaching and learning, Computers can be an incredible tool, especially when the learners have access to data stored on CD-ROMs or the Internet. They can use a PC to access vast knowledge bases on almost any topic, search archives of information dating back decades, ask questions online and even take online courses [ERS, Undated]. So it is important to have a basic understanding of computer technology, regardless of one's career choice or aspiration.

Researchers have proposed that positive attitudes toward computers, high computer self-efficacy and lower computer anxiety levels could be important factors in helping people learn computer skills and use computers [e.g., Busch, 1995 in Sam, Othman and Nordin, 2005]. Woodrow [1991] claimed that students' attitudes toward computers were critical issues in computer courses and computer-based curricula. Sam, Othman and Nordin [2005] concluded that monitoring the user's attitudes toward computers should be a continuous process if the computer is to be used as a teaching and learning tool. Other attributes, such as gender and age [Morris, 1988-1989] and computer anxiety [Paxton & Turner, 1984] were also shown to be related to attitudes toward computers.

2. COMPUTER ATTITUDE

In general, attitudes can be defined as "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" [Fishbein and Ajzen, 1975]. They are relatively less stable than personality traits and can be changed both across time and across situations in virtue of individual's interaction with the environment [Robinson, Simpson, Huefner, and Hunt, 1991]. Since attitudes are learnt, they are mouldable i.e. they change with experience of the stimulus objects and with social rules or institutions [Binder and Niederle, 2007].

According to Whitrow [1999] computer-related attitudes influence students' desire to use computers, their desire to enroll in computer-related subjects and courses, and their choice of career path. Students' computer-related attitudes are also directly related to their prior experiences and use of computers [Levine & Donitsa-Schmidt, 1997].

Different researches have been conducted on how users' attitudes toward computers [herein referred to as computer attitudes] influence the future use of and behaviour toward computers [e.g. Fann, Lynch & Murranka, 1989; Woodrow, 1991; Levine & Donitsa-Schmidt, 1997]; the use of computers in optional circumstances [Fann *et al.*, 1989], acceptance of computers [Selwyn, 1997] as well as future subject enrolment at school and the attendant selected career path [Busch, 1995; Levine & Donitsa-Schmidt, 1997]. Consequently, Nash and Moroz [1997] supported the view that evaluation of computer attitudes is an important technique in response to the trend of computers becoming more centralized in education through integration. This study is focused on factors which may be responsible for certain attitudes the student demonstrates towards the use of computer and which may affect their future interest and possible choice of computer and related vocations.

2.1 Computer Self Efficacy

Kinzie, Delcourt, and Powers [1994] defined self-efficacy as an individual's belief in his or her ability, which may impact the performance of tasks:

"Self-efficacy reflects an individual's *belief* in his/her ability to perform the behavior required to produce specific outcome and it's thought to directly impact the choice to engage in a task, as well as the effort that will be expended and the persistence that will be exhibited." [p. 747]

Self-efficacy has been shown to influence choice of whether to engage in a task, the effort expended in performing it, and the persistence shown in accomplishing it [Bouffard-Bouchard, 1990]. Also Brown [2008] cautioned that self efficacy is not the same as actual knowledge of a task or with self esteem, which actually refers more to feelings of self-worth, but one which is situational and which highly influences people's decision, goals, the amount if time they persevere through obstacles and difficulties.

Individuals who perceive themselves capable of performing certain tasks or activities are defined as high in self-efficacy and are more likely to attempt and execute these tasks and activities. People who perceive themselves as less capable are less likely to attempt and execute these tasks and activities, and are accordingly defined as lower in self-efficacy [Barling & Beattie, 1983; Bandura, Adams, & Beyer, 1977 in Karsten and Roth, 1998].

Self-efficacy has been suggested to be an important factor in the acquisition of computing skills [Miura, 1987]. Computer self-efficacy is a belief of one's capability to use the computer [Compeau & Higgins, 1995] such that participants with little belief in their ability to use computers might perform more poorly on computer-based tasks whereas better computer self-efficacy could increase persistence and success in studying computing [Sam, Othman and Nordin, 2005] and carrying out computer-based tasks. Khorrami-Arani [2001] highlighted several researches which demonstrated the impact that computer self-efficacy may have on increasing performance and the technological innovation of employees, reducing computer induced anxiety, and promoting higher occupational positions.

Research has focused on the relationship of a number of individual and situational variables to computer self efficacy. The relationship of gender to computer self efficacy has been of regular interest, since gender differences in self-efficacy have been investigated [Murphy, Coover and Owen, 1989], but findings have been mixed, for instance, Harrison & Ranier [1992] found that males demonstrated higher computer self efficacy than females but Smith [1994] found no gender differences on a measure of computer task self-efficacy among university students enrolled in an introductory computer science course, also in a study examining graduate students, adult vocational students, and professionals [nurses] in three different computer training settings [Murphy et al., 1989]. Also the relationship of computer experience to computer self efficacy has been investigated but no research has been found to determine the relationship between computer self efficacy, computer anxiety and students' attitude to the use of computers.

2.2 Computer Anxiety

According to Dukes, Discenza and Couger [1989] studies conducted by Weinberg [1980] and Weinberg, English and Mond [1981] were the earliest to report the existence of computer anxiety. They described it as a response to interaction or anticipation of interaction with automated data or information processing system. Further studies have given more explicit definitions. For instance Computer anxiety has been defined as a fear of computers when using one, or fearing the possibility of using a computer [Chua, Chen, & Wong, 1999]. Thatcher and Perrew [2002] saw computer anxiety as individuals' judgment of their capabilities to use computers in diverse situations.

Computer anxiety is characterized as an affective response, an emotional fear of potential negative outcomes; it may include worries about embarrassment, looking foolish or even damaging computer equipment [McInerney, McInerney & Sinclair, 1994 in Phelps and Ellis 2002]. Maurer and Simonson [1984:6] clarified the difference between computer anxiety and the rational fears related to computer utilization such as in job placement, increased exposure to radiation from terminal screens, and concluded that computer anxiety relates to feelings of impending doom or sure calamity because of contact with computer. Consequently they identified four behavioural indicators of computer anxiety:

1. Avoidance of computers and the general areas where computers are located.
2. Excessive caution with computers.
3. Negative remarks about computers and
4. Attempts to cut short the necessary use of computers.

From an information processing perspectives, the negative feelings associated with high anxiety detract cognitive resources from task performance [Kanfer & Heggstad, 1997]. Thus the performance of participants with higher computer anxiety might be poorer than those with little or no computer anxiety. Raub [1981] found five contributing factors to computer anxiety to include gender, computer experience, college major, math anxiety, and trait anxiety. He also found that computer attitudes are gender-specific and culturally-learned. On the other hand, Thatcher and Perrew [2002] posited that individuals who have more confidence in their capabilities tend to demonstrate lower levels of computer anxiety. From the foregoing, investigating computer anxiety as a possible correlate of computer attitude may not be out of place.

2.3 Purpose of the research

In reference to results of an earlier study carried out by Adebowale and Adewale [in press] and considering the importance of students' computer attitude to their future use and possibility of taking up future computing careers, the researchers saw an important need to determine the factors which may influence the International Journal of Computing and ICT Research, Vol. 3, No. 2, December 2009.

development of a healthy computer attitude in learners. As a result, the study looked at two research objectives. It sought to determine if socio-demographic variables like gender, age or field of study had any effect on computer attitudes, self efficacy and computer anxiety of learners. It also sought to determine which of the earlier stated factors are significant correlates of computer attitude among students. Specifically, this research investigated the following research hypotheses.

Research Hypothesis One: The students' gender has no significant influence on computer attitude, self efficacy and computer anxiety.

Research Hypothesis Two: There is no significant difference in the computer attitude, self efficacy and computer anxiety of the secondary school students under study on the basis of age groupings?

Research hypothesis Three: There is no significant difference in the computer attitude, self efficacy and computer anxiety of the secondary school students under study on the basis of students' fields of study.

Research hypothesis Three: The identified factors are not significant predictors of computer attitude among the students under study.

3. METHODOLOGY

The research design used for the study is a descriptive survey design. Six hundred [600] Senior Secondary school class III [SS III] students were selected by proportionate random sampling from the three zones which makes up the Educational District I [ED I] of Lagos state in the first term of the 2007/2008 academic session. The district consists of three zones [each coinciding with a local government area] of Agege, Ifako/Ijaye and Alimosho. Two schools equipped with forty microcomputer-fitted laboratories each by the state government were selected in each of these zones and one hundred [100] students were randomly selected from the SS III classes of each of the six schools to participate in the study.

The instruments used were two types of questionnaires. The first one was adopted from Adebowale and Adewale [in press], consisting of three sections which together were used to produce a measure of the students' attitude to computer. Section A consists of 12 items, section B has 13 items while section C contain 8 items. Some of the items were adapted from the Computer Attitude Scale developed by Nickell & Pinto [1986] while others were derived from other Computer attitude questionnaires developed by the Texas Center for Educational Technology [1998], Internet Education Research Group [undated] and the Institute for the Integration of Technology into Teaching and Learning [2003]. The respondents were required to provide response in five categories corresponding to their level of agreement with the statements given as "Strongly agree" "Agree" "Undecided" "Disagree" "Strongly disagree". Copies of the questionnaire were earlier circulated to 42 students who did not eventually participate in the study. Their responses were used to obtain validity and reliability information. It also necessitated deleting three items from section A, two from section B and four from section C. The final version of the instrument gave a Cronbach's Alpha estimate of 0.81 and split-half value of 0.79 showing that the instrument can be said to be very reliable for the type of study for which it is designed.

The second Questionnaire titled "computer anxiety and self efficacy measures of secondary school students" was used to measure the computer anxiety and self efficacy of the students under study. It consists of three sections – section A which was used to collect socio-demographic information such as gender, age, field of study, name of school and so forth. Section B was used to collect information on the respondents' self efficacy and contained items adapted from Khorrami-Arani [2001] and Karsten & Roth [1998]. Section C contain items which measured the computer anxiety of the respondents, the items were adapted from the Computer Anxiety Scale from the University of North Carolina at Charlotte [see <http://www.psych.uncc.edu/pagoolka/ComputerAnxiety.html>] and the Computer Anxiety Rating Scale of the University of Southern Maine [see <http://www.usm.maine.edu/com/carssc~1.pdf>]. The three sections were compiled into a single composite and assembled into the instrument used for this study. For this section, the respondents were required to provide responses in five categories corresponding to their level of agreement with the statements given as "Strongly agree" "Agree" "Undecided" "Disagree" "Strongly disagree". Copies of the questionnaire were also circulated to the 42 students mentioned earlier. Their responses were also used to obtain validity and reliability information. The final version of the instrument gave a Cronbach's Alpha estimate of 0.77 and split-half value of 0.84 showing that the instrument can be said to be reliable for this type of study.

The instrument was administered on the respondents by their ICT teachers under close supervision of the researchers. Out of the 600 pieces of the questionnaire circulated only 540 [90% return rate] could be International Journal of Computing and ICT Research, Vol. 3, No. 2, December 2009.

used for the study; others were either not returned or not properly filled. Data analysis was by using, t-test, ANOVA and post-hoc analysis provided in the SPSS 14 Software. The results were as presented below.

4. RESULTS

Research Hypothesis One: Students' gender has no significant influence on computer attitude, self efficacy and computer anxiety among the secondary school students under study?

To test this hypothesis, the respondents' scores on their attitudes, computer self efficacy and computer anxiety were independently subjected to tests of difference in means using gender as the basis for differences. The Respondents scores on attitude toward the computer ranged from 90 to 170, for computer self efficacy their score ranged from 6 to 85 and for computer anxiety, the scores ranged from 4 to 80.

Table 1: Test of difference in male and female students' computer characteristics

Computer characteristics	Respondents' sex	N	Mean	Std. Deviation	T	Sig. [2-tailed]
respondent computer attitude	Male	124	131.5242	13.50186	-.869	.386
	Female	94	133.0426	11.74085		
Computer Self-Efficacy	Male	123	66.4634	11.29071	-.230	.818
	Female	92	66.8261	11.60012		
computer anxiety	Male	116	40.2414	15.14086	-.559	.577
	Female	89	41.4494	15.61396		

Table 1 above shows that in the three cases the null hypothesis cannot be rejected as generally, there is no gender difference in the computer attitude of the students under study [$t = -0.869$, $p > .05$]. Also, male and female respondents demonstrated no significant difference in the computer self efficacy [$t = -0.230$, $p > .05$], and computer anxiety [$t = -0.559$, $p > .05$] experience by them.

Research Hypothesis 2: There is no significant difference in the computer attitude, self efficacy and computer anxiety of the secondary school students under study on the basis of age groupings?

To address this research hypothesis, the responses of the students on the basis of their age groups [Pre-Adolescents – 10-12yrs, early adolescents – 13 – 15 yrs, mid adolescents – 16 to 18 yrs; late adolescents – 19yrs and above] were subjected to analysis of variance and the result was as shown in table 2 below.

Table 2: Test of difference in students computer characteristics on the basis of their age grades

		Sum of Squares	Df	Mean Square	F	Sig.
respondent computer attitude	Between Groups	1955.658	3	651.886	4.033	.008
	Within Groups	34753.502	215	161.644		
	Total	36709.160	218			
Computer Self-Efficacy	Between Groups	346.335	3	115.445	.864	.460
	Within Groups	28448.144	213	133.559		
	Total	28794.479	216			
computer anxiety	Between Groups	2205.670	3	735.223	3.377	.019
	Within Groups	44192.070	203	217.695		
	Total	46397.739	206			

It can be observed from table 2 above that the null hypothesis cannot be accepted for computer attitude as the p-value did not attain or surpass the mandatory 0.05 threshold. Hence we can conclude that there is a significant difference in the students attitude to computer on the basis of age [$F_{3,215} = 4.033$, $p < .05$]. This is also the case for computer anxiety [$F_{3,203} = 3.377$, $p < .05$], but no significant difference was demonstrated by different age groups in computer self efficacy [$F_{3,213} = 4.033$, $p < .05$]. The researchers attempted to find

the direction of the difference observed in the computer characteristics of the students by conducting a multiple comparison test via Turkey HSD test. The result was shown in table 3 below.

Table 3: Multiple comparison test of difference on the basis of respondents' age groupings via TurkeyHSD

Dependent Variable	[I] age grade	[J] age grade	Mean Difference [I-J]	Sig.
respondent computer attitude	Pre-Adolescents	Early Adolescents	-2.58824	.954
		Mid-Adolescents	-6.81481	.517
		Late Adolescents	-25.50000	.043*
	Early Adolescents	Pre-Adolescents	2.58824	.954
		Mid-Adolescents	-4.22658	.079
		Late Adolescents	-22.91176	.059
	Mid-Adolescents	Pre-Adolescents	6.81481	.517
		Early Adolescents	4.22658	.079
		Late Adolescents	-18.68519	.170
	Late Adolescents	Pre-Adolescents	25.50000	.043*
		Early Adolescents	22.91176	.059
		Mid-Adolescents	18.68519	.170
computer anxiety	Pre-Adolescents	Early Adolescents	-6.97980	.674
		Mid-Adolescents	-12.66333	.176
		Late Adolescents	-5.33333	.971
	Early Adolescents	Pre-Adolescents	6.97980	.674
		Mid-Adolescents	-5.68354*	.036*
		Late Adolescents	1.64646	.999
	Mid-Adolescents	Pre-Adolescents	12.66333	.176
		Early Adolescents	5.68354*	.036*
		Late Adolescents	7.33000	.899
	Late Adolescents	Pre-Adolescents	5.33333	.971
		Early Adolescents	-1.64646	.999
		Mid-Adolescents	-7.33000	.899

*. The mean difference is significant at the 0.05 level.

From Table 3, it can be observed that in terms of computer attitude, heavy difference was found between pre-adolescents and late adolescents were not found to be significant [mean difference = 22.5, $p < .05$]. This can be interpreted to mean that late adolescent students seem to possess better attitude to computer use and its other concerns. On the other hand the significant difference obtained in respondents computer anxiety on the basis of their age groupings could be seen to stem from the difference between Early-adolescents and Mid-adolescents [mean difference = 5.68, $p < .05$]

Research hypothesis 3: There is no significant difference in the computer attitude, self efficacy and computer anxiety of the secondary school students under study on the basis of students' fields of study. To test this research hypothesis, the responses of the students on the basis of their fields of study [Science, Arts, Commercial and Vocational] were subjected to analysis of variance and the result was as shown in table 4 below.

Table 4: Test of Difference in students' computer characteristics on the basis field of study

		Sum of Squares	Df	Mean Square	F	Sig.
respondent computer attitude	Between Groups	5728.271	3	1909.424	14.546	.000
	Within Groups	28353.165	216	131.265		
	Total	34081.436	219			
Computer Self-Efficacy	Between Groups	1172.452	3	390.817	3.185	.025
	Within Groups	26262.979	214	122.724		
	Total	27435.431	217			
computer anxiety	Between Groups	1229.179	3	409.726	1.902	.130
	Within Groups	43723.903	203	215.389		
	Total	44953.082	206			

On the basis of field of study, table 4 shows that significant difference was obtained in computer attitude of the students [$F_{3,216} = 14.546, p < .05$]. as well as their computer self efficacy [$F_{3,214} = 3.185, p < .05$]. However, field of study was found to have no significant influence on computer anxiety [$F_{3,203} = 1.902, p > .05$]. The researchers also determine the direction of the differences in computer attitudes and computer self-efficacy of the respondents belonging to different fields of study via a multiple comparison analysis and the result was as shown below.

Table 5: Multiple comparison test of difference on the basis of respondents' age groupings

Dependent Variable	[I] field of study	[J] field of study	Mean Difference [I-J]	Sig.
respondent computer attitude	Science	Arts	-5.53560	.070
		Commercial	-11.77336*	.000
		Vocational	-30.62791*	.002
	Arts	Science	5.53560	.070
		Commercial	-6.23776*	.003
		Vocational	-25.09231*	.014
	Commercial	Science	11.77336*	.000
		Arts	6.23776*	.003
		Vocational	-18.85455	.100
	Vocational	Science	30.62791*	.002
		Arts	25.09231*	.014
		Commercial	18.85455	.100
Computer Self-Efficacy	Science	Arts	-4.10879	.243
		Commercial	-4.30865	.143
		Vocational	-20.28571	.048
	Arts	Science	4.10879	.243
		Commercial	-.19986	.999
		Vocational	-16.17692	.179

	Commercial	Science	4.30865	.143
		Arts	.19986	.999
		Vocational	-15.97706	.183
	Vocational	Science	20.28571	.048
		Arts	16.17692	.179
		Commercial	15.97706	.183
*. The mean difference is significant at the 0.05 level.				

From Table 5 it can be seen that the largest significant difference observed in the respondents' computer attitude was between science and vocational students [mean difference = 30.63, $p = 0.002$] in favour of those in vocational field, closely followed by the difference between arts and vocational [mean difference = 25.09, $p = 0.014$] and also between arts and commercial [mean difference = 6.24, $p = 0.003$]. In terms of computer self efficacy the only significant difference was spotted between science and vocational students [mean difference = 20.29, $p = 0.048$].

Research hypothesis 4: The identified factors are not significant predictors of computer attitude among the students under study.

To test this hypothesis, the predictor variables are tested for their strength of predicting computer attitude among the students and the result was as presented below.

Table 6: Multiple Regression of predictor variables in students' computer attitude

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square	Adjusted R Square
	B	Std. Error	Beta					
[Constant]	95.013	4.884		19.452	.000	.482 ^a	.232	.222
Computer Self-Efficacy	.281	.050	.259	5.595	.000			
computer anxiety	.052	.040	.060	1.304	.003			
field of study	6.233	.781	.386	7.982	.000			
respondent sex	2.510	1.210	.099	2.074	.039			
respondent age	-.134	.111	-.056	-1.202	.230			

a. Predictors: [Constant], respondent age, Computer Self-Efficacy, respondent sex, computer anxiety, field of study

b. Dependent Variable: respondent computer attitude

From Table 6, it can be seen that all the variables except the respondents' age seem to significantly predict computer attitude. The respondents' field of study seems to be the strongest factor which predicts his/her attitude to the computer with regression weight of 6.233 at p -value = 0.000 and contributing 38.6% of the observed variance, this was followed by sex [2.510, p -value = 0.039 contributing 9.9% of the observed variance]. Computer self efficacy was also a significant predictor [B = 0.281, $p = 0.000$ with 25.9% of the observed variance] as well as computer anxiety [B = 0.052, $p = 0.003$ contributing only 6% of the observed variance]. Together the model they construct is a significant one with an R-value of 0.482 and accounting for 22.2% of an observed variance in the attitude of the students.

5. DISCUSSION

This study was designed to examine certain factors which may influence computer attitude in a developing economy like Nigeria. It is hoped that if these factors are known, facilitating environment could easily be organized for students to develop a healthy attitude towards computer use, promote persistence in studying computing and possibly encourage them to take up computer related vocations in future. Research

hypothesis one was posed to find out if the gender factor exercises any moderating influence on computer attitude, computer self efficacy and computer anxiety. The results showed that gender has no significant influence on any of the three parameters. This led credence to earlier findings of Rohner and Simonson [1981] and Rosen, Sears and Weil [1987] as cited by Todman and Lawrenson [1992]. Kotrlík, and Smith [1988] also confirmed this findings.

In the second hypothesis, the study sought to find out differences in the computer attitude, computer self efficacy and computer anxiety of the students under study on the basis of their age groupings. The results indicated that age has nothing to do with computer self efficacy but could be fingered in the difference in their computer attitude and computer anxiety. This may be as a result of the fact that older students may have had more life and computing experience than the younger ones as the multiple comparison test indicated the difference between the old “Late adolescents” and the younger “Pre-Adolescents”. This is in consonance with the positive correlation found between age and computer attitude by Marshal and Bannon [1986] and Toddman and Lawrenson [1992] also quoted Rosen et al [1987] found a positive correlation between age and computer anxiety levels and attributed the inability of some researchers to find such a correlation to limited age range of the sample used in their study.

In Research hypothesis 3, it was found that the field of study the students pursue had a significant influence on their attitude towards the computer as well as on their computer self efficacy. It however had no significant effect on their computer anxiety. Students in the vocational fields of study seemed to possess better attitude towards the computer than other students, even better than what students in the commercial field demonstrated. Commercial students also demonstrated better attitude than students in the science and arts field. Perhaps students in the sciences and arts possess erroneous belief that they are suppose to give more attention to their school subjects rather learning, using or attempting to take up vocation in computing and its related fields.

After the influences of identified factors have been established, the researchers attempted to find out if the students’ computer attitude could be predicted from the identified factors and by so doing, make workable suggestions as to improving on the factors in order to enhance positive computer attitude in the learners. Consequently, a multiple regression test was conducted and the result indicated that learners’ field of study, computer self efficacy, gender and computer anxiety could be significant predictors of students’ computer attitude. Learners field of study seemed to be the strongest predictor, the next regression weight was that of computer self efficacy, all these are in agreement with the findings of Raub [1981]. Also gender seems to contribute to a significant prediction of computer attitude. A very low level of computer anxiety [very small but significant regression weight] seems to significantly predict computer attitude in agreement with Busch [1995].

6. CONCLUSION

The findings of this research has shown that effective management of socio-demographic factors [like gender and field of study], and personality variables [like computer self-efficacy and computer anxiety] could significantly predict how learners will relate to the computer, their persistence at studying computing and its allied courses as well as the development of interest in computer and computer related vocations.

Consequently, school counsellors and vocational guidance specialists have important roles to play in developing positive computer attitude in secondary school students by counselling them in gender relations to vocations and knowledge acquisition, usefulness of computers to students in all fields of study, counselling for confidence in handling computer and overcoming anxiety when using it. It is the view of the researchers that if these are properly managed, students attitude to computer, computing and computer vocations will be improved and many more will like to be involved in adopting computers and computing as a tool in the global march towards computerization and technological advancement.

However, it is suggested that the psychological basis of gender differences and contribution of these factors to computer attitude still require the attention of researchers as this will enable school counsellors to design appropriate guidance and counselling programmes which could be tailored towards improved attitude towards the computer, given the important roles computer and its applications play in the lives of man in the 21st century and beyond.

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