ISSN 2348-1196 (print)
International Journal of Computer Science and Information Technology Research ISSN 2348-120X (online)
Vol. 3, Issue 4, pp: (170-175), Month: October - December 2015, Available at: www.researchpublish.com

Factors Influencing the Attitudes and Perceptions of University Students' towards the use of Information Communication Technology (ICT) in the University for Development Studies (UDS), Wa – Campus

Sidique Gawusu[1], Kwame W. Abroampa[2]

[1,2]University of Education, Winneba, Ghana

Abstract: **The present study was a descriptive survey which sought to assess the factors influencing University students' perceptions and attitudes towards the use of Information Communication Technology (ICT). This study was conducted in the University for Development Studies (UDS). In determining this, a self-prepared instrument was used. Participants were 115 first year university students registered for the various programs in the Faculty of Integrated Development Studies (FIDS) and the School of Business and Law (SBL). Four research questions were and three hypotheses guided the study. The instrument for data collection was a 34 – item questionnaire developed by the researcher. The instrument was validated and internal consistency of 0.72 (72%) was calculated using Cronbach Alpha techniques. Independent samples t-test was also used to compare the various means. The findings indicated a positive relationship of students' perception and attitudes towards ICT. Independent sample t-test was used to compare the means of Male and Female students, and FIDS and SBL students which shows difference in their mean scores. On the other hand, no statistically significant differences were established. Recommendations and suggestions for further research are also advanced.**

Keywords: **perception; attitude; learning; institution.**

1. INTRODUCTION

The last two decades have witnessed a worldwide proliferation of Information Communication Technology (ICT) into the field of education. The global adoption of ICT into education has often been premised on the potential of the new technological tools to revolutionize an outmoded educational system, better prepare students for the information age, and/or accelerate national development efforts. In developing countries in particular, the above promises have generated a whole set of wild speculations about the necessity of educational reforms that will accommodate the new tools [1].

The potentials of Information Communication Technology (ICT) to facilitate students' learning, improve teaching and enhance institutional administration had been established in literature [2], [3]. The use of Information Communication Technology as a tool for enhancing students' learning, teachers' instruction, and as catalyst for improving access to quality education in formal and non-formal settings has become a necessity. As a result it has become one of the basic building blocks of modern society. Mastering basic skills and concepts of ICT is becoming part of the core of education, together with reading, writing and numeracy.

Governments in most developing countries including Ghana have responded to the challenge by initiating national programs to introduce computers into education. Doing so, these governments have added to their burden of debt ''even though the costs are large and the payoffs modest'' [4]. It is indicated in [4] that, national programs have been of limited success not only because they were formulated in non-educational realms, but also because they were not based on

research. For instance, the introduction of the one laptop one pupil project was not based on stake holder consultation. In [5], the ‘‘initiation stage’’, which demands information gathering and planning, seems to be missing in this headlong process of technology implementation.

In Ghana, the Ministry of Education in collaboration with other agencies have recently adopted a national plan to introduce computers and informatics into all levels of education. To this end, the Ministry has inaugurated computer equipped labs within secondary schools for general, vocational and technical education. It has also connected many schools to the Internet. In addition, the Ministry created a new specialization in computer technologies in an effort to increase the number of computer experts in society, and government has also embarked on mass distribution of RLG laptops to both learners and teachers.

The Ghana ICT for Accelerated Development (ICT4AD) [6] Policy represents the Vision for Ghana in the information age. It is based on the Policy Framework Document: “An Integrated ICT led Socio-economic Development Policy and Plan Development Framework for Ghana” released in March 2003. The development of this policy framework document was based on a nation-wide consultative process involving all key stakeholders in the public sector, private sector and civil society.

According to the ICT4AD, the introduction of technology into the Ghanaian educational system aims ‘‘to keep pace with the progress and to reach efficient levels of education’’ Unfortunately, the implementation of technology into the Ghanaian schools has not been guided by research. This has often been the case in most countries across the world. In particular, the technology implementation plans seem to be lacking consideration of learner’s reactions to the new tools. Such inattention to the end-users attitudes may engender unforeseen repercussions for ICT diffusion in Ghanaian schools. In his theory of Diffusion of Innovations, [5] considers adopter’s attitudes indispensable to the innovation-decision process. A number of studies have shown that teachers attitudes toward computers are major factors related to both the initial acceptance of computer technology as well as future behaviour regarding computer usage [7], [8]. This suggests that studies at the early stages of technology implementation should focus on the end-users perceptions and attitudes toward technology.

In the present study, the researcher explored the perceptions and attitudes of University students toward the use of ICT. Attitude in this study is defined as “negative or positive emotional relationship with or predisposition toward an object, an institution or person” [9]. This definition explains the fact that attitude has to do with people’s emotions and how this influences their behaviour. This suggests that attitudes determine individuals’ experiences and reaction to life.

ICT and the University:

In developing countries, sophisticated Information and Communication Technology (ICT) is on the edge of restructuring the objectives, content, and processes of schooling.

This forms part of the broad changes that countries like Ghana are currently undergoing. These changes affect all forms of societal institutions including schools. Given that one of education’s goals is to prepare students for more responsibility in their future work places, schools then have the responsibility of changing their policies, practices, and curricula to meet current needs [10]. When that is taken care of, the challenge of rendering students ready for a better future will be adequately addressed.

In Ghana as in other parts of the world, pressure from economic, social and the educational sector has placed demands on the use of ICT in everyday activities. Related to this, it has been argued that one of the most important ways in which the teaching of science and technology can be improved in Ghana is by “introducing more real life skills into science, such as technical, trade, industrial, commercial, manufacturing, marketing and technological skills” [11].

The importance of technology in the curriculum of primary secondary and further education colleges has been strongly advocated by various researchers e.g., [12], [13]. This has happened even though in most of the developing countries, adequately qualified lecturers of technology are still very scarce.

Attitudes and Perceptions towards ICT:

It is reported by [14] that most students feel their learning are improved by integrating technology into their learning. Therefore, educational technologies, specifically computer and the Internet technologies, have inevitably become powerful in the classroom as they change the way we teach and learn [15]. As technology makes learning more interesting, enjoyable and interactive, students today love learning by doing, discovering, and interacting.

According to the study done by [16], students in undergraduate and graduate school perceived computers as a part of their life. These students also had a positive attitude towards computers since they think they are efficient tools for their life. Thus, the researchers concluded that the students had a consciousness about effects and importance of computers. It also concluded by [17] that, from their student's perception on blogs, the integration of blogs in the lessons could promote educational perception even though there are still some misuses of these technologies. According to Student Perception Model by [18], the perceived effectiveness of a technology is based on three factors; the prior educational conditions, characteristics of students, and perceived characteristics of technology.

2. METHOD

For the purpose of the present study, purposive, stratified and simple random sampling techniques were implored in the selection of the faculty and the school and the students from their various departments, the students were those in level 100 from the following departments, for the Faculty of Integrated Development Studies (FIDS), the following departments were considered, African and General Studies, Economics and Entrepreneurship Development, Environment and Resource Studies, Integrated Development Studies and Social, political and Historical Studies .And also for the School of Business and Law the following departments were considered, Administration and Management Studies, Banking and Finance, Procurement and Marketing, and Accountancy. A simple random sampling technique was used on the population to ensure that each member of the subset has an equal probability of being chosen. A simple random sample is meant to be an unbiased representation of a group. It was used to obtain 120 students out of the total population of the faculty and the school.

A stratified random sample of the students was selected for the study. This sampling technique is used to ensure that every possible characteristic of the students is accounted for. The data was gathered quantitatively through questionnaires. The target population of this study consists of all level 100. The subjects were purposively selected because they constituted the focus of the study, as students. The sample consisted of 120 students. This was evenly distributed between the Faculty and the school, 60 respondents being selected from each in order to avoid bias. Below is how the sample was distributed.

Table 1: The Table below shows distribution of the sample size for the study

Faculty/School	Department	Male	Female	Total
FIDS	African and General Studies	5	5	10
	IDS	10	10	20
	Economics and Entrepreneurship Development	5	5	10
	Environment and Resource Studies	5	5	10
	Social, Political and Historical Studies	5	5	10
SBL	Administration and Management Studies	10	10	20
	Banking and Finance	5	5	10
	Procurement and marketing	5	5	10
	Accountancy	10	10	20
		Total		120

The respondents were 69 percent male and 46 percent female, with ages ranging from below 20 and above 44years. Results were analysed using IBM – SPSS.

3. RESULTS AND FINDINGS

Results generated from the instrument are presented in the tables below.

Table 2: Perceptions of Students.

Statement	Strongly Agree No (%)	Agree No (%)	Disagree No (%)	Strongly Disagree No (%)	Mean	S.D.
ICT helps to generate Pleasant Atmosphere in the lecture room.	46(40)	57(49.6)	9(7.8)	3(2.6)	3.29	0.710
ICT facilitates my social relationship with my peers.	40(34.8)	57(49.6)	16(13.9)	2(1.7)	3.17	0.729
ICT helps me to explain my problems to	35(30.4)	46(40)	29(25.2)	5(4.3)	2.97	0.858

the lecturer through Facebook, email, WhatsApp etc.						
ICT helps me to ask my peers questions.	33(28.7)	51(44.3)	28(24.3)	3(2.6)	3.01	0.800
ICT allows me to express my emotions more freely to the lecturer through Facebook, email, WhatsApp etc.	18(15.7)	57(49.6)	29(25.2)	10(8.7)	2.71	0.846
ICT enables the lecturer to relate better with us.	19(16.5)	59(51.3)	34(29.6)	3(2.6)	2.81	0.736
ICT allows me to better evaluate my progress in a course.	26(22.6)	51(44.3)	34(29.6)	4(3.5)	2.86	0.804
ICT facilitates the presentation of content by lecturers.	52(45.2)	51(44.3)	8(7.0)	4(3.5)	3.31	0.754
ICT facilitates the integration of knowledge from different sources.	62(53.9)	39(34.8)	11(9.6)	2(1.7)	3.41	0.736
ICT helps me to gain more knowledge related to a course.	50(43.5)	46(40.0)	15(13.0)	4(3.5)	3.23	0.809
ICT helps me to do my academic homework faster and better.	74(64.3)	34(29.6)	7(6.1)	-	3.58	0.607
ICT allows me to apply the acquired knowledge.	31(27.0)	46(40.0)	33(28.7)	5(4.3)	2.90	0.852

Table 2 shows the response rates to the perceptions of students towards the usage of ICT. According to the data, the majority of the respondents reported that, ICT allows them to apply the acquired knowledge (93.9%), ICT helps them to do their academic homework faster and better (83.5%), generates a pleasant atmosphere in the lecture room (89.6%), facilitates the integration of content by lecturers (89.5%), facilitates the integration of knowledge from different sources (88.7%), helps them to gain more knowledge related to a course (82.6%). In addition, participants remarked that ICT facilitates their social relationship with their peers (84.4%), helps me to ask my peers questions (73%), helps me to explain my problems to the lecturer through Facebook, email, WhatsApp etc. (70.4%). Furthermore, as high as 72.3% reported that ICT helps them to ask their peers questions.

On the other hand, some participants displayed negative perceptions towards better evaluation of their progress in a course (66.9%). Finally, 67.8% of the participants report that ICT enables the lecturer to relate better with them.

From the results above the students who participated in the study from the university perceived the perception subscale to be positive, there were measured on the individual items. The item which was perceived to be the most positive by the students was that it helps them to do their academic faster and better (M = 3.58, S.D = 0.607) with the least perceived item being ICT allowing them to express their emotions more freely to the lecturer through Facebook, email, WhatsApp etc. (M = 2.71 S.D = 0.846). The average mean of the perception items was calculated to be 3.10. These findings may be an indication that the students have a favourable perception towards ICT since the mean range falls within the range of 2.6 – 3.59 (Agree).

Table 3: Attitudes of Students

Statement	Strongly Agree No (%)	Agree No (%)	Disagree No (%)	Strongly Disagree No (%)	Mean	S.D.
I like ICT interactive lecture.	37(32.2)	58(50.4)	18(15.7)	2(1.7)	3.13	0.732
I like ICT related courses.	34(29.6)	64(55.7)	14(12.2)	3(2.6)	3.2	0.715
I feel nervous or frightened when a lecturer is using ICT in his or her lectures.	10(8.7)	18(15.7)	50(43.5)	37(32.2)	2.11	0.915
ICT is boring when used in lecture presentation.	10(8.7)	19(16.5)	50(43.5)	36(31.3)	2.01	0.913
ICT is very interesting to me when used in lecture presentation.	44(38.3)	42(36.5)	22(19.1)	7(6.1)	3.07	0.905
A good ICT knowledge makes it easier to learn other courses.	48(40.7)	51(44.3)	10(8.7)	6(5.2)	3.23	0.817

Table 3 shows the response rates to the attitudes of students towards the usage of ICT. According to the data, the majority of the respondents reported that they like ICT related courses (85.3%), like ICT interactive lecture (82.6%), a good ICT knowledge makes it easy to learn other courses (85%). Furthermore, 74.8% of the participants remarked that ICT is interesting when used in lecture presentation. Some of the participants however displayed a negative attitude towards ICT. This is evident from the number who say they feel nervous or frightened when a lecturer is using ICT in his or her lectures (24.4%) and 25.2% of the participants reports that ICT is boring when used in lecture presentation. From the table above, the mean and standard deviation of the individual items were as follows; M = 3.13 and S.D = 0.732, M = 3.2 and S.D = 0.715, M = 2.11 and S.D = 0.915, M = 2.01 and S.D = 0.913, M = 3.23 and S.D = 0.817. The distribution of responses on this subscale indicated that the students have a positive/favourable attitude towards the use of ICT since the average mean which is 2.792 falls within the range of 2.60 – 3.59(Agree).

4. DISCUSSION

In recent years, and as a result of the increasing pace of advances in technology and especially developments in the use of ICT in schools, lecturers in Ghana are now encouraged to make routine use of ICT in their teaching. This study was conducted to determine the factors that influence the perceptions and attitudes of university students towards the use ICT. In order to achieve this, four research questions were answered and the hypotheses formulated for the questions were tested. These particular issues were chosen for investigation because they are thought to be closely related and to influence each other. Potentially, they create a chain. This chain in their ICT usage is influence by their perceptions, either negative or positive and their attitudes which are both heavenly influence by policy which will predictable affect student usage of ICT. Students' perceptions and attitudes of ICT are likely to be reflected in their future views of ICT utilization. Widely held attitudes are fundamental to understanding social perception of people because they greatly influence peoples' actions.

The research question one investigated university students' perceptions towards the use of ICT. The findings revealed that the overall respondents' perceptions of ICT usage were somewhat positive. Respondents perceptions varied across the four subscales of the questionnaire examine in this study. Students' responses were most positive about ICT helping them to do their academic homework faster and better, and the pleasant atmosphere that ICT generates in the lecture room. They were however less positive about using ICT to evaluate their progress in a course and helping the lecturer to relate better with them.

In response to research question two, the findings revealed that the overall respondents' attitudes of ICT usage were also somewhat positive, the respondents agreed that they like ICT interactive and ICT related courses which indicates that their attitudes towards ICT is somewhat positive. This shows that the students were unanimous in their mean ratings; this is evident from the initial analysis done by the researcher.

Some of the participants however displayed a negative attitude towards being nervous or frightened when a lecturer is using ICT in his or her lectures and ICT been boring when used in lecture presentation.

Most students were highly negative about the statement that there is no internet facility in the school and also agreed to the fact that the facilities available on campus for ICT are woefully inadequate. Respondents were also however negative about lecturers lacking ICT expertise in teaching and learning. Finally, the respondents remarked that credit units for the various courses are not sufficient so as to integrate the use of Information Communication Technology (ICT).

With regards to the challenges, students agreed that there are not enough facilities available in the school to support ICT usage and the seats in the lecture room makes usage of ICT in teaching and learning. It was also agreed that the lecture room is not well equipped to support the use of ICT.

In the present study, difference among females and males were also investigated, the sig – value for each of the four subscales is greater than the p - value. The result showed that there is no evidence that there is a difference in the perceptions and attitudes of male and female students towards ICT usage. Also with regards to FIDS and SBL students' perceptions and attitudes towards ICT, there is no evidence that there is statistically significant difference.

5. CONCLUSION

The present study which investigated the factors influencing university students' perceptions and attitudes toward ICT has never been carried out in Ghana. Findings from this empirical study should therefore add an important aspect to the body of scant knowledge that is already available. Consistent with findings reported in literature, the present study also establish positive relationships. Other studies reported however, that students' perceptions and attitudes toward ICT were influenced by other variables, such as students' learning style. Similarly, with respect to gender difference, the present study's findings were consistent with those reported elsewhere. Such studies have recommended the need for female role models to help remove gender stereotyping of females, which may negatively influence their perceptions and attitudes towards ICT. In fact in published literature, the present studies seem to indicate that a lot of factors have an influential role on students' perceptions and attitudes towards ICT.

REFERENCES

[1] Pelgrum, W. J. (2001). *Obstacles to the Integration of ICT in Education: Results from a Worldwide Educational Assessment.* Computers & Education, 37(2001), 163–178.

[2] Kazu, I. Y. &Yavulzalp, N. (2008) .*An analysis of the primary school teachers' usage ofinstructional software.* International Journal of Emerging Technologies, 3 (1), 45-53.

[3] Kirschner, P. & Woperies, I. G. J. H. (2003). Pedagogic benchmarks for information and communication technology in teacher education. Technology, Pedagogy and Education, 12 (1), 127-149.

[4] Benzie, D. (1995). *IFIP Working group 3.5: using computers to support young learners. In J. D. Tinsley, & T. J. van Weert (Eds.),* World conference on computers in education VI: WCCE_ 95 liberating the learner (pp. 35–42). London: Chapman & Hall.

[5] Rogers, E. M. (1995). *Diffusion of innovations (4th ed.).* New York: The Free Press.

[6] The Ghana ICT for Accelerated Development (ICT4AD) Policy, 2003. *www.ict.gov.gh* Retrieved 7/07/2013.

[7] Koohang, A. A. (1989). *A study of the attitudes toward computers: anxiety, confidence, liking, and perception of usefulness.* Journal of Research on Computing in Education, 22(2), 137–150.

[8] Selwyn, N. (1997). *Students_ attitudes toward computers: validation of a computer attitude scale for 16–19 education.* Computers & Education, 28(1), 35–41.

[9] Le Roux, J. (1994). *The Black child in crisis. A socio-education perspective volume 2. J. L Van Schaik.*

[10] Tucker, M. and Codding, J. (1998). Standards for our Schools: How to set them, measure them, and reach them. New York: Jossey - Bass

[11] Moru, A., and Rochford, K. (1999). SAQA and NQF policy issues in the design of a new professional Curriculum for Science teacher education. South African Journal of Higher Education, 13, (2), 142 – 156

[12] Jenkins, E. W. (1994). Public understanding of Science and Science Education for action. Journal of Curriculum studies, 26, 601 – 6012.

[13] Johnson J. R. (1989). Technology report of the Project 2061 Phase I Technology Panel Washington, D.C.: American Associations for the advancement of Science.

[14] Speaker, K. (2004). Student perspective: Expectations of multimedia technology in a college literature class. Reading Improvement, 41, 241-254.

[15] Ayas, C. (2006). An examination of the relationship between the integration of technology into social studies and constructivist pedagogies. The Turkish Online Journal of Educational Technology, 5(1), 14-25.

[16] İşman, A, Çağlar, M., Dabaj, F., Altınay, Z., &Altınay, F., (2004). *Attitudes of students toward computers.* The Turkish Online Journal of Educational Technology, 3(1), 11-21.

[17] Lui, A. K., Choy, S.-O., Cheung, Y. H. Y., & Li, S. C. (2006). A study on the perception of students towards educational weblogs. Informatics in Education, 5(2), 233-254.

[18] O"Malley, J., & McCraw, H. (1999).*Students" Perceptions of Distance Learning, Online Learning, and the Traditional Classroom. Online Journal of Distance Learning Administration*, 2(4).Retrieved November 10, 2014, from http://www.westga.edu/~distance/ omalley24.html.