GENDER DIFFERENCES IN COMPUTER USE SKILL AMONG STUDENTS OF SCHOOL OF HEALTH TECHNOLOGY, UFUOMA, DELTA STATE

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Abstract

Gender differences in computer use skill among students in School of Health Technology, Ufuoma, Delta State was examined in this study. The descriptive survey research design was adopted for this study. A sample of 200 students was selected from Health Technology Ufuoma, Delta State and used for the study. A two part questionnaire was used in eliciting information from the sample. The stated research questions were analyzed with the use of the simple percentage method. Based on the analysis, the following findings emerged, that; there was difference in computer use skill levels among students; that there was gender difference on the frequency with which students make use of computers; that there was no difference between the attitude of male and female students towards the use of computers; and that male students had a higher level of computer software use than female students and finally, that there was gender difference on the problems faced by students in the acquisition of skills and use of computer.

KEY WORDS: Gender differences, Computer use, skills, School of Health Technology.

Introduction

The aim of medical education in Nigeria is to produce competent physicians. And computer technology has brought very significant changes in both the teaching and practice of medical-health all around the world. The information needs of a medical student of the twenty-firth century has changed, and he or she is left with the choice of deciding what to read and where to get their information sources. Idowu, Adagunodo, & Idowu (2004) indicated that knowledge, skills and confidence with computer technology are now an asset for students whose aim is to use a variety of information sources. In order to be successful in academic programs and careers, it is essential that students possess improved computer skills (Furst-Bowe & Boger, 2006).

Computer literacy or skill is defined as the knowledge and ability to use computers and related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving Lynch (1998). Computer literacy skill can also

refer to the comfort level someone has with using computer programs and other applications that are associated with computers (Wikipedia 2013). Anuobi (2004), described computer literacy as having a basic understanding of what computer is and how it can be used as a resource. Asuquo & Onasanya (2006) stated that many factors in and outside the classroom result in perceived gender differences in computer usage. Explaining futher, Gurumurty (2004), observed evidences that points towards gender imbalance in the use of computers and other technologies.

Shanahan (2006) believes that the health care industry is in a state of constant and rapid change and due to the increase in scientific knowledge and rapid technological advances, there has been a growing emphasis on the physicians need to efficiently access, retrieve, and use scientific evidences to improve patient care (Li, Tan, Muller & Chen, 2009). This scenario can be best achieved if medical/health students, especially students of health technology, Ofuoma, Ughelli have the requisite computer skills and the right attitude. Accordingly, the purpose of this study was to determine if there is a gender difference in the computer use skills of school of health technology students by looking at how they have access to computers, the frequency with which they use computers, if there is gender difference in the use of various software and look at problems they face when using computers.

Research Questions

The study was guided by the following research questions

(i)   Is there gender difference in computer use skill levels among students of school of health technology, Ufuoma?

(ii)   Is there gender difference on the frequency with which students make use of computers?

(iii)   Is there difference between the attitude of male and female students towards the use of computers?

(iv)   Is there any difference between the usages of computer software application among students?

(v)   Is there gender difference on the problems faced by students in the acquisition of skills and use of computer?

Review of Related Literature

Computer literacy consists of the experience and ability to operate computers, including knowing the structures of computer software and hardware, having the skills to operate computer software, and applying computer usage to social issues (Li, 2008). According to Tella and Mutula (2008), the issue of gender equity as far as access to and use of computer continues to be a topical subject not only in developing countries but the world over. However, available indices suggested that, although there is a gender gap in all countries, with the significant growth in access to and increased educational opportunities for more

women, the relative difference between men and women is diminishing (Sorenson, 2002, Kay, 2008 & Munusamy & Ismail, 2009).

Manda and Mulkangara (2007) reported that gender is associated with the use of electronic information resources, and that male students were more likely to use e-resources than female students. In the study carried out by Ramayah and Osman (2005), it revealed that male users had more computer usage skills than their female counterparts. Bakar, Meseran and Atan (2005) reported that males had more positive attitudes towards ICTs. Gupta's (2001) study also found significant gender difference in the way females and males rated themselves in their ability to master technology skills. Even though both genders were positive about their computer abilities, males rated themselves higher than females. Kay (2006) reviewed 36 studies on gender and computer use and concluded that the male correspondents have significantly higher perceived computer literacy.

Kumar and Kumar (2008) report that 161 (53.67%) in the total sample of 300 learn to make use of electronic information sources through trial and error, while half the population 150 (50 %) learn through advice from friends, and only 35 (11.67%) learned to use these resources by attending courses and training offered by the college. This implies that most of the users are aware of the importance of computer skill. From their study, they pointed out that there was slight difference between male and female students on computer use skills.Similarly, even in situations where male and female are given equal access, men are more likely to be main computer user than women (Becker and Sterling 2007; Idowu, Adagunodo, & Idowu 2004). Several investigations, especially Whitley (2007) and Jennings and Onwvegbuzie (2001) have reported that gender has no significant effect on any of the dimension of computer attitude studied.

Some researchers have also suggested that the factors such as gender and degree of exposure to ICT have influence on the ways that students use and apply computer software (Looker & Thiessen, 2003; Reddick, Boucher, & Groseilliers, 2000; Rideout, 2000). Looker and Thiessen (2002), for example, in their study looking at gender differences and computer application use among school students in Canada, have found that, generally, male students used apply computer software and computers more frequently than female students. Again, Bimber (2000) concluded that males were also more competent in using various computer applications than their female counterparts. However, Looker and Thiessen further argued that the findings of their study suggested that there was no significant difference between these two groups of students with respect to frequency of use and level of computer software application. On whether there was equality of access, usage and application of software between the women and their male counterparts, 199 (97.1%) answered in the negative while only 6 (2.9%) respondents confirmed that there was equality of access, usage and application of software (Olatokun, 2007). Again, Link & Marz's (2006) study showed that more male medical students (72%) had access to personal computers (laptops) and as well as having higher usage and application of software.

According to Ali (2005), a sizeable number of users of electronic resources especially the computer (almost 60%) are facing numerous problems such as lack of knowledge about the resources. He identified four (4) barriers to the effective provision of electronic resources users to include: lack of strategic planning; lack of inadequate or reliable funding to purchase computers; lack of use of internet to provide information services to users and a lack of consistent training for users in new ICT services. Furthermore, Said (2006) also agree to these problems when he identified inadequate electronic supply; lack of information retrieval skills for exploiting the internet through the computer, thus making the level of usage of computer by students very low. He also said that the use of database was poor due to lack of awareness, lack of access to computers, insufficient training and high cost of provision computer and its related resources.

Ameen (2006) noted that besides poor back-up sources for primary information system, the lack of power supply are commonly issued facing the usage of computer. Zakari (2009); Jagboro, (2007) also opines that the use of computers by students is plagued by epileptic power supply among others in their efforts their efforts to utilize the computer for network connectivity. On the other hand, Okiy (2010) pointed out that inadequate funding of libraries has been identified as a major obstacle to the acquisition (and usage of) computer technology. Another problem, as noted by Amadi (2010), which has inhibited the acquisition of computer skills by students, especially female students is domestic problem. In her study, 7.5% respondents who were vulnerable to early marriage stated that they became committed to family matters instead of education. They also reiterated the fact that females are the shelter of the house and therefore incline to domestic responsibilities. The females focus more on domestic work than studying and this affects their academic performance. The saying that goes thus "practice makes perfect" holds here and since computer technology demands a lot of practice, it therefore translates to poor skills where constant practice is lacking. It is evident that most of these studies have not been carried out on medical/health care students in Ofuoma, Ughelli area of Delta State of Nigeria, hence the reason for this study.

Methodology

This study will employ the descriptive survey research design, with the population of this study consisting of students in School of Health Technology, Ufuoma, Ughelli, Delta State, which is 2570. Selection of the sample size for the study was drawn using the stratified random sampling. By this method, the sample was divided into two strata or sub populations, that is, male and female, (Egbule and Okobia 1998). Using a random technique the researcher randomly selected 210 students from the two strata. The purposive sampling technique was further used during the administration on f the instrument. A questionnaire on gender differences in computer use skill was constructed. It was divided into two main parts. Part A contains the personal data of the respondents and Part B, divided into five different sections, holds information on the different areas which the study sought to provide answers. The data collected from the retrieved questionnaires will be analyzed using simple percentage and tables in the interpretation of results in the study.

Analysis of Data and Discussions
Table 1: Response Rate of the Questionnaire

		No of Respondents	(%)
1.	No. of retrieved Questionnaire	200	95.2
2.	No. of un-returned Questionnaire	10	4.8
	Total	**210**	**100**

The result from Table1, showed that of the 210 questionnaire distributed, 200 (95.2%) were found usable and 10 (4.8%) were not returned. This implies that there was a 95.2% returns rate for the questionnaires.

Table 2: Gender Distribution of Respondents

GENDER	No of Respondents	(%)
Male	100	50
Female	100	50
Total	**200**	**100**

Table 2 showed that 100 (50%) of the respondents were male while 100 (50%) were female. This implies that the percentage of female respondents were equal to the male respondents.

RQ 1. Is there gender difference in computer use skill levels among students of school of health technology, Ufuoma?
Table 3: Level of computer use skills

SN	Skills	Male Response	Female Response
i	Requisite search engine skills	90 (45%)	70 (35%)
ii	Appropriate skills in switching on and shutting down a computer system	92 (46%)	74 (37%)
iii	Knowledge of the structure of database	54 (27%)	36 (18%)
iv	Adequate skill in the use of formats such as PDF, JPEG, MPEG etc.	86 (43%)	62 (31%)
v	Adequate skills in searching/surfing the internet	94 (47%)	78 (39%)
vi	Adequate skill in formulating search queries	86 (43%)	62 (31%)
vii	Adequate skill in the use of electronic library tools e.g. CDROM, Subject Gateways etc.	80 (40%)	58 (29%)
viii	Adequate skill in opening and saving a document	82 (41%)	64 (32%)
ix	Appropriate skill in typesetting, editing and printing of document	64 (37%)	42 (21%)
x	Appropriate skill in drawing graphs and editing of pictures	56 (28%)	26 (13%)

Presented results in Table 4.4 reveals that 90 of the male respondents indicated having requisite search engine skills while on 70 female had the requisite skill. The analysis also shows that 92 (46%) and 70 (37%) of the male and female respondents indicated having appropriate skills in switching on and shutting down a computer system. The table also shows that there was difference between male and female respondents on the level of computer use skills in the following areas: knowledge of the structure of database (54 (27%) and 36 (18%) respectively), adequate skill in the use of formats such as PDF, JPEG, MPEG

etc, Adequate skills in searching/surfing the internet, adequate skill in formulating search queries (86 (43%) or 62 (31%) respectively); adequate skill in the use of electronic library tools e.g. CDROM, Subject Gateways etc, (80 (40%) and 58 (29%) respectively); Adequate skill in opening and saving a document (82 (41%) or 64 (32%) respectively); appropriate skill in typesetting, editing and printing of document (64 (37%) and 42 (21%) respectively) and finally, Appropriate skill in drawing graphs and editing of pictures (56 (28%) and 26 (13%) respectively for male and female students. This shows that there are gender differences in computer use skills among students of school of health technology, Ufuoma, it also implies that male students possess a higher level of computer use skill than female.

RQ 2. Is there gender differences in the frequency with which students make use of computers?

Table 4: Gender difference on the Frequency of Computer Usage

SN		Male Response			Female Response		
		Regularly	Occasionally	Never	Regularly	Occasionally	Never
i	MS Office Word	76 (38%)	18 (9%)	6 (3%)	46 (23%)	34 (17%)	20 (10%)
ii	MS PowerPoint	48 (24%)	30 (15%)	22 (11%)	28 (14%)	38 (19%)	34 (17%)
iii	MS Office Excel	50 (25%)	36 (18%)	14 (7%)	32 (16%)	36 (18%)	32 (1%)
iv	MS Office Paint	60 (30%)	30 (15%)	10 (5%)	36 (18%)	24 (12%)	40 (20%)
v	Corel Draw	66 (33%)	20 (10%)	14 (7%)	26 (13%)	36 (18%)	38 (19%)
vi	Windows Media Player	60 (30%)	22 (11%)	18 (9%)	46 (23%)	40 (20%)	14 (7%)
vii	Internet browsing	84 (42%)	14 (7%)	2 (1%)	50 (25%)	28 (14%)	22 (11%)
viii	Adobe Reader	38 (19%)	38 (19%)	24 (12%)	26 (13%)	30 (15%)	44 (22%
ix	Nero Essentials	16 (8%)	22 (11%)	62 (31%)	6 (3%)	34 (17%)	60 (30%)
x	e-mail	80 (40%)	20 (10%)	0 (0%)	82 (41%)	18 (9%)	0 (0%)
xi	Chat	70 (3%)	20 (10%)	10 5%)	84 (42%)	16 (7%)	0 (0%)
xii	games	60 (30%)	22 (11%)	18 9%)	58 (29%)	30 (15%)	12 (6%)
xiii	CD/DVD-ROM	26 (13%)	34 (17%)	40 (20%)	20 (10%)	30 (15%)	50 (25%)
xiv	Electronic Book	16 (8%)	18 (9%)	66 (33%)	10 (5%)	16 (8%)	74 (37%)
xv	Electronic Journals	26 (13%)	34 (17%)	40 (20%)	12 (6%)	28 (14%)	60 (30%)
xvi	E-dictionary	24 (12%)	16 (8%)	60 (30%)	20 (10%)	20 (10%)	60 (30%)

The results indicate that there are differences between male and female students on the frequency of computer usage. The areas of difference where male students use computer more than female students are in the areas of MS Office Word, MS PowerPoint, MS Office Excel, MS Office Paint, Corel Draw, Windows Media Player, Internet browsing, Adobe Reader and games. This implies that male students make use of the above computer applications than female students. However, female students had a higher frequency of computer usage for Chat and e-mail messages.

RQ 3. Is there difference between the attitude of male and female students towards the use of computers?

Table 5: Gender difference on the attitude of male and female students towards the use of computers

SN	Attitudes	Male		Female	
		Agreed	**Disagreed**	**Agreed**	**Disagreed**
i	Computers and technology have made students more productive	96 (48%)	4 (2%)	92 (46%)	8 (4%)
ii	Gathering data for class assignments is simplified by using computers.	**87** (40%)	**13** (10%)	**82** (41%)	**18** (9%)
iii	I am comfortable when using computers for assignments	82 (41%)	18 (9%)	76 (38%)	24 (12%)
iv	I prefer getting information from a printed page instead of a computer screen.	84 (42%)	16 (8%)	78 (39%)	22 (11%)
v	The frustrations created by computers are more trouble than they are worth.	38 (19%)	62 (31%)	60 (30%)	40 (20%)
vi	Because computers and other technologies have all but eliminated the need to write on the job, writing is no longer a critical skill.	22 (11%)	78 (39%)	38 (19%)	62 (31%)
vii	Technology frees people from tedious work allowing them to concentrate on more difficult tasks.	70 (35%)	30 (15%)	74 (37%)	26 (13%)
viii	Using the PC would improve my performance	90 (45%)	10 (5%)	86 (43%)	14 (7%)

The analysis in table 5 on the attitude of male and female students towards the use of computers shows there is no difference between the two genders. The only difference is seen on the area where female students indicated that frustrations created by computers are more trouble than they are worth. Hence, the conclusion drawn here indicates that there is no difference between the attitude of male and female students towards the use of computers.

RQ. 4 Is there any difference between the usages of computer software application among students?

Table 6: Gender difference on the usages of computer software application among students

SN	Applications	Male Response	Female Response
i	Microsoft Office Word	94 (46%)	80 (40%)
ii	Microsoft Office PowerPoint	78 (39%)	66 (33%)
iii	Microsoft Office Excel	86 (43%)	68 (34%)
iv	Microsoft Office Paint	90 (4%)	60 (30%)
v	Corel Draw	66 (33%)	62 (31%)
vi	Windows Media Player	82 (41%)	86 (43%)
vii	Internet browsing	98 (49%)	78 (39%)
viii	Adobe Reader	76 (38%)	56 (28%)
ix	Nero Essentials	38 (19%)	40 (20%)
x	e-mail	100 (50%)	100 (50%)
xi	Chat	90 (45%)	100 (50%)
xii	Games	90 (45%)	88 (44%)
xiii	CD/DVD-ROM	60 (30%)	50 (25%)
xiv	Electronic Book	34 (17%)	26 (13%)
xv	Electronic Journals	60 (30%)	40 (20%)
xvi	E-dictionary	40 (20%)	40 (20%)

Table 6 gives the analysis on the usage of computer software application among students. The analysis reveals that more male students than female students make use of computer software than female students. The only exception where female students had a higher level of computer software application usage is on Chat and on Nero Essentials.

The analysis, thus far implies that there is difference between the usages of computer software application among male and female students. Male students had a higher level of computer software use than female students.

RQ. 5 Is there gender difference in the problems faced by students in the acquisition of skills and use of computers?

Table 7: Gender difference on the problems faced by students in the acquisition of skills and use of computer

SN	Problems	Male Response	Female Response
i	Lack of requisite skills	10 (5%)	30 (15%)
Ii	Epileptic power supply	76 (38%)	80 (40%)
iii	Lack of fund to purchase computer tools	56 (28%)	60 (30%)
iv	lack of information retrieval skills	38 (19%)	52 (26%)
v	Access to information or materials	40 (20%)	60 (30%)
vi	The problem of gender	6 (3%)	56 (28%)
vii	Domestic problem	38 (19%)	64 (32%)
viii	Inadequate ICT application facilitates	56 (28%)	70 (35%)
ix	Lack of awareness on the part of students	38 (19%)	52 (26%)
x	Poor maintenance culture of computer	56 (28%)	68 (34%)

The result in table 7 shows that a higher proportion of female respondents indicated lack of requisite skills as a problem faced by students in the acquisition of skills and use of computer, 76 (38%) male students and 80 (40%) female students indicated epileptic power supply as a problem; lack of fund to purchase computer tools were seen by both genders (28% and 30% respectively) as a problem Female students were also found to differ on the problem faced by students in the acquisition of skills and use on the following areas: Access to information or materials for male students was 40 (20%) while female students had 60 (30%), lack of information retrieval skills, males scored 38 (19%) and female students had 52 (26%).

This findings from this study is line with Manda and Mulkangara (2007) who reported that gender is associated with the use of electronic information resources, and that male students were more likely to use e-resources than female students. Furthermore, in support of the above findings, Ramayah and Osman (2005) revealed that male users had more computer usage skills than their female students' counterpart. And on the part of Ansari and Zuberi

(2010), they found gender difference in the use of computers between male and female students. According to them, male students had more computer skill knowledge than their female counterparts

Also, the findings of Rajab & Baqain (2005); Munusamy & Ismail (2009) supported the results from this study. In their study they posited that a significant difference was found between males and females in the length of time they used computers. Gefen and Straub (2007) also found that there were differences in perception of male and female in terms of frequency of computer usage. Whitley (2007) and Jennings and Onwvegbuzie (2001) reported that gender has no significant effect on any of the dimension of computer attitude. However, the finding disagrees with that of Ono & Zavoday (2003) who stated that some gender differences have been found in attitude towards computer technology intensity of internet use Also research by Levin & Gordon (2009) found that men and boys have significantly more positive attitude towards computer and more stereotyped attitudes regarding who is capable of using them.

Male students had a higher level of computer software use than female students. This finding is in consonance with Tella & Mutula (2008) who pointed out in their study that there is marked significant gender difference in application use of computer by male and female subjects. Likewise, Looker and Thiessen (2002) in their study looking at gender differences and computer application use among school students in Canada, have found that, generally, male students use and apply computer software and computers more frequently than female students.

Conclusions and Recommendations

Gender differences exists in computer use skill levels among students of the school of health technology, Ufuoma. The frequency of use of computer differs between male and female students. Male students had a higher frequency of computer usage than female students. No difference exists between the attitude of male and female students towards the use of computers, male students had a higher level of computer software use than female students and Finally, differences exists between male and female students on the problems faced by students in the acquisition of computer skills and use. The study recommends that university libraries should be adequately funded so as to enable them acquire relevant computers for students use in the library. Also, academic libraries should be provided with adequate electricity to enable students use computers without any hindrance. Students should be encouraged to own their personal computers and orientation programmes should be regularly organized by the institution on the need for the acquisition of computer knowledge.

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