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GENDER INEQUALITY IN THE USE OF ICT TOOLS AMONG BUSINESS EDUCATION STUDENTS IN COLLEGES OF EDUCATION IN ANAMBRA STATE.

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Abstract

This study examined gender inequality in the use of ICT among Business Education students in Colleges of Education in Anambra State. Three research questions guided the study. A descriptive survey research design was used. The population for the study was 612. This comprised of 420 (300 female and 120 male) Business Education Students (FCET), 192 (111 female and 81 male) Business Education students (NOCEN), The sample size for the study was 242 and was determined using Taro Yamane Formular. Proportionate stratified sampling technique was then used to get: 166 (119 female and 47 male) NCE Business Education students (FCET), 76 (44 female and 32 male) NCE Business Education students (NOCEN) who were randomly selected from the two groups. The instrument used was questionnaire titled, assessment of gender inequality in the use of ICT among Business Education students in colleges of education in Anambra State (AGIUICTBESCoE). The instrument was validated by three research experts. The Cronbach Alpha reliability test was used to determine the reliability of the instrument and a reliability coefficient of 0.79 was obtained. The data collected from the questionnaire were analyzed using mean and standard deviation at 0.05level of significance. The finding of the study revealed that there is gender difference in the use of ICT among Business Education students in colleges of education in Anambra State. Based on the findings, it was recommended that female students should be highly motivated in the use of ICTs in schools by way of giving awards and scholarships to female students in colleges of education.

Keywords: Gender, Gender Inequality, ICT, Business Education, College of Education.

Introduction

Globalization as well as new scientific and technological pursuits in our daily existence has led to the emergence of information and communication technologies (ICTs) in every part of the aspect of life including education, specifically in colleges of education. Colleges of Education is an educational programme that prepares individuals to be practitioners as well as leaders in education and related human service fields by deepening and expanding understanding of education as a fundamental human endeavour in helping society define and respond to its educational responsibilities and challenges (Enwere & Ikeanyionwu, 2020). Several courses are taught in colleges of education, one of which is Business Education. Business education is a programme designed to equip learners with both academic and vocational skills needed for both salaried jobs and self employment as entrepreneurs (Odike & Nnaekwe, 2019). It is education that enriches basic education for teaching career, entrepreneurship, business understanding, office understanding, office environment and vocational practices (Nwokike, Ezeabi& Jim, 2018). The use of ICTs in teaching and learning of Business Education is critical if its aims must be achieved.

ICTs foster learning. ICTs according toGnamb (2021)are aset of technological tools and resources used to create, disseminate, store and manage information. These technologies include computer, the internet, broadcasting technologies (radio and television) and telephony. To David-West and Akamueze (2022), ICTs means the set of activities which is facilitated by electronic means to process, transmit and display information. ICT is now becoming popular in educational sectors because it can facilitate teaching and learning as well as administrative activities in schools. It enhances the quality of educational system in many nations (Atsuwe, Adeniran & Iortyom, 2019). Nwana, (2018), stated that in the mid 20th century, the role of information and communication technology in

educational institutions increased immeasurably as a result of social progress and the vigorous development in science and technology. According to Eze and Onwusa (2020), information technology as an important area of study in its own right began to have major impact across all curriculum areas. Campos and Scherer (2024) asserted that ICT facilitates students' access to digital information, supports self-directed and student-centered learning, promotes collaborative learning and has positive effects on students' outcomes. Furthermore, Atika, Najmal and Jafar, (2021) state that the use of ICTs in educational sector enhances better quality experience for both staff and students. The avenue for students to study together over the internet is facilitated. Most importantly ICTs created free access to information and enhances lifelong activity through access to ICTs in the home, at work, and in educational establishments (David-West, 2020).

Studies by Buza and Mula (2017) as well as Omosebi, and Motunrayo (2021) revealed that despite the over whelming evidence that ICT holds promises for improving access to quality education, there is still growing concerns regarding the disparity in use of ICTs in educational institutions especially between male and female students in technical colleges. This disparity is termed as gender inequality in the use of ICT or digital gender gap or digital gender divide**(**Basavaraja, & Kumar 2017).

Gender refers to the biological and physiological reality of being male or female (Igbo, Onu & Obiyo 2015). Igbo *et al*, described gender as a behaviour pattern and attitude perceived as a masculine and feminine within a culture. Furthermore Eze, Obidile and Okotubu (2020), described gender as a social and cultural construct which distinguishes difference in the attributes of men and women, boys and girls and accordingly refers to the roles of men and women. It refers to the social and cultural constructs that each society assigns to behaviours, characteristics and values attributed to men and women. According to Ayoob and

Bhat, (2016), the gender constructs are shaped by ideological, historical, religion ethnic, economic and cultural determinants which are translated into social, economic and political inequalities where men's activities and their gender attributes are perceived as essentially superior to women's. Inequality means a state of not being equal. Gender inequality on the other hand means the disparities and unequal treatment of individuals based on their gender which can affect their access to resources, opportunities and rights. Previous studies like Siddiq and Scherer (2019); Van Dijk (2020) and Tyers-Chowdhurry and Binder (2021) has identified disparities in digital access and usage among students of different genders which is known as digital gender divide. According to Van Dijk, these divides have three core dimensions namely: differences in the access to ICT resources; differences in the attitudes toward technology and digital knowledge and skills and differences in the usage of ICT and tangible outcomes (such as learning or educational outcomes). Goudeau *et al* (2021) observed that these divides are linked to cultural, social and economic inequalities in education. Van Deursen *et al* (2021) explain that these divides may reinforce and amplify other societal inequalities

Campos and Scherer (2024) as well as Okotubu (2024) noted that boys are more likely than girls to have access to a computer at home from their primary school years onwards. Also, Goudeau, *et al* (2021) asserted that boys hold more positive attitudes towards technology than girls. In line with this objective, the study therefore, seeks to investigate gender inequality in the use of ICT among Business Education students in colleges of education in Anambra State.

Statement of the Problem

The integration of Information and Communication Technology (ICT) in education has revolutionized teaching, learning, and administrative processes globally. In colleges of education in Anambra State, ICT tools such as computers,

the internet, and digital platforms are essential for enhancing learning experiences, improving academic outcomes, and fostering digital literacy among students. However, despite the widespread adoption of ICT in these institutions, there exists a persistent gender disparity in access, usage, and proficiency in ICT tools among students.

Research suggests that male students are more likely to have access to personal computers, spend more time on digital platforms, and demonstrate greater confidence in using ICT tools compared to their female counterparts. Cultural, social, and economic factors, coupled with deeply rooted gender stereotypes, continue to contribute to this digital gender divide. Female students often face additional responsibilities at home, lack adequate parental support for ICT use, or encounter cultural barriers that limit their engagement with technology.

This inequality not only affects the academic performance of female students but also hinders their ability to compete in a digitally driven world. The gender divide in ICT usage may reinforce existing societal inequalities and limit opportunities for female students in both academic and professional spaces.

It is against this backdrop that this study seeks to examine the extent of gender inequality in ICT usage among students in colleges of education in Anambra State. Specifically, the study aims to determine whether differences exist in access, time spent, and performance in ICT usage between male and female students. Addressing these issues is critical for fostering an inclusive digital learning environment and ensuring equal opportunities for all students, regardless of gender.

Purpose of the Study

The purpose of this study is to find out if gender is a factor in the use of ICT among students in colleges of education in Anambra State. Specifically, the study aims at assessing

1. The variation between male and female students in access to ICT in colleges of education in Anambra State.
2. The time duration between male and female students in the use of ICT in colleges of education in Anambra State.
3. The performance between male and female in the use of ICT in colleges of education in Anambra State.

Research Questions

The following research questions guided the study:

1. Is there variation in the use of ICT among male and female students in colleges of education in Anambra State?
2. Do male students spend more time than female in the use of ICT in colleges of education in Anambra State?
3. Do male perform better than females in the use of ICT in colleges of education in Anambra State?

Method

A descriptive survey design was adopted for the study. In line with the research design, opinions of Business education students on the problem of the study were sought. The study was carried out in the two Colleges of Education in Anambra state- NwaforOrizu College of Education, Nsugbe (NOCEN) and Federal College of Education (Tech), Umunze (FCETU). The population for the study is 612 Business Education students gotten from the deans' office of the respective institutions. This comprised of 420 (300 female and 120 male) Business Education Students (FCET), 192 (111 female and 81 male) Business Education students (NOCEN). The sample size for the study is 242. This was determined using Taro Yamane Formular. Proportionate stratified sampling technique was then used to get: 166(119 female and 47 male) NCE Business Education students (FCET), 76(44 female and 32 male) NCE Business Education students (NOCEN) who were

randomly selected from the two groups. The instrument for data collection was a questionnaire constructed by the researchers based on the research questions. The questionnaire was made up of 27 items and was divided into three: Part 1, Part 2 and Part 3. Part 1 with 9 items to elicit information on variations in the use of ICT among male and female students; Part 2 has 9 items which covered whether male students spend more time than female in the use of ICT and Part 3has 9 items which covered whether male students perform better than the female students in the use of ICT. The instrument was validated by three experts from the Faculty of Education, NnamdiAzikiwe University, Awka. The instrument was pilot tested using 20 business education students (10 males and 10 females) in Federal College of Education (Tech) Asaba, Delta state who were not part of the study population. This was done to ensure the reliability of the instrument and the data collected was analyzed using Cronbachs' Alpha. Overall reliability coefficient of 0.73 was obtained and was considered to be acceptable for the study. The questionnaire was administered by the researchers using direct administration method. Out of the 242 copies of the questionnaire administered only 237 copies were used for analysis representing about 97.93% return rate. The other 5 copies were not duly filled and was not used for analysis.

The data obtained were analyzed using mean and standard deviation based on the 4-point scale ranging from very strongly agree of 4 points to strongly disagree of 1 point. Any item with a mean response of 2.50 and above was considered 'agreed' while items with a mean response below 2.50 were considered 'disagreed'.

Results

Research Question 1: Is there variations in the use of ICT among male and female students in colleges of education in Anambra State?

Table 1: Mean rating of the variation in the use of ICT among male and female students in colleges of education in Anambra State

		female N=163			male N = 79			Total N= 242		
S/N	ITEMS	Mean	SD	Remark	Mean	SD	Remark	Mean	SD	Remark
1	I own a laptop	2.35	.70	Disgreed	2.82	.78	Agreed	2.63	.70	Agreed
2	I have reliable internet access at home	2.50	.54	Agreed	2.96	.76	Agreed	2.73	.63	Agreed
3	I have reliable internet access at school	2.51	.60	Agreed	2.55	.95	Agreed	3.24	.60	Agreed
4	I own a mobile phone	2.54	.76	Agreed	2.54	.86	Agreed	3.24	.60	Agreed
5	I am computer literate	2.37	.51	Disgreed	2.52	.51	Agreed	2.50	.68	Agreed
6	I have access to ICT facilities	2.33	.51	Disgreed	3.24	.60	Agreed	2.83	.79	Agreed
7	I have parental support in terms of ICT access	2.36	.51	Disagreed	3.14	.62	Agreed	2.92	.70	Agreed
8	My culture allows me access to ICT	2.38	.58	Disgreed	3.10	.51	Agreed	2.75	.53	Agreed
9	My school policies foster access to ICT	2.52	.51	Agreed	2.90	.62	Agreed	2.75	.56	Agreed
	Cluster mean	2.42	.71	Disgreed	2.75	.68	Agreed	2.56	.51	Agreed

Table 1 showed that cluster mean for female students was below the cut-off point of 2.50 while that of male students was above the cut-off point of 2.50. This means that there are variations in the use of ICT among male and female students in colleges of education in Anambra State. Most female students do not own a laptop, are not computer literate, do not have access to ICT facilities, do not have parental support in terms of ICT access and their do not allow them access to ICT unlike their male counter parts. Again, the grand standard deviation is 0.51

indicating that the data points are relatively close to the mean implying a relatively low level of variability.

Research question 2: Do male students spend more time than female in the use of ICT in colleges of education in Anambra State?

Table 2: Mean rating of respondents on whether male students spend more time than female in the use of ICT in colleges of education in Anambra State.

		female N=163			male N = 79			Total N= 242		
S/N	ITEMS	Mean	SD	Remark	Mean	SD	Remark	Mean	SD	Remark
1	I often spend many hours using a laptop for academic purposes	2.26	.86	Disagreed	2.82	.78	Agreed	2.88	.62	Agreed
2	I visit the ICT laboratory for practice	2.50	.73	Agreed	2.96	.76	Agreed	2.84	.56	Agreed
3	My responsibilities at home hinder me from ICT use	2.55	.79	Agreed	2.55	.95	Agreed	3.26	.71	Agreed
4	I go to other students for practice	2.42	.76	Disagreed	2.54	.86	Agreed	3.40	.64	Agreed
5	I participate on online session for academic purposes	2.20	.74	Disagreed	2.53	.82	Agreed	3.22	.60	Agreed
6	I browse the internet regularly for academic purposes	2.23	.82	Disagreed	2.83	.59	Agreed	3.16	.62	Agreed
7	I use social media for educational activities	2.50	.72	Agreed	3.05	.59	Agreed	3.12	.63	Agreed
8	I engage in online forums	2.45	.68	Disagreed	2.93	.72	Agreed	2.92	.70	Agreed
9	I watch online videos	2.50	.62	Agreed	2.73	.67	Agreed	3.07	.72	Agreed
	Cluster mean	2.40	.51	Disagreed	3.05	.59	Agreed	2.75	.68	Agreed

Table 2 showed that cluster mean for female students was below the cut-off point of 2.50 while that of male students was above the cut-off point of 2.50. This means that male students spend more time than female in the use of ICT in colleges of education in Anambra State. Most female students do not spend many hours on the laptop for academic activities, their responsibilities at home hinder them from ICT use, they do not browse the internet regularly for academic purposes and they do not engage in online forums unlike their male counterparts. The standard deviation of male and female students range between 0.56 to 0.72. This indicates that the variability across items is relatively consistent.

Research question 3: Do male students perform better than the female students in the use of ICTin colleges of education in Anambra State?

Table 3: Mean rating of respondents on whether male students perform better than female students in the use of ICT in colleges of education in Anambra State

		female N=163			male N = 79			Total N= 242		
S/N	ITEMS	Mean	SD	Remark	Mean	SD	Remark	Mean	SD	Remark
1	I have phobia in ICT use	2.51	.69	Agreed	2.48	.65	Disagreed	2.71	.46	Agreed
2	I have interest in the use of ICT	2.50	.68	Agreed	2.82	.78	Agreed	2.53	.55	Agreed
3	I lack ICT skills and is affecting my performance	2.52	.67	Agreed	2.26	.76	Disagreed	2.75	.53	Agreed
4	I see ICT use as my future career.	2.09	.64	Disagreed	2.54	.86	Agreed	2.75	.56	Agreed

5	I lack exposure to ICT tools	2.54	.62	Agreed	2.23	.82	Disagreed	2.56	.51	Agreed
6	I see ICT tool and their uses as boring	2.53	.69	Agreed	2.22	.78	Disagreed	2.52	.51	Agreed
7	I can troubleshoot common computer problem	2.21	.69	Disagreed	2.96	.76	Agreed	2.60	.50	Agreed
8	I can use online tools to collaborate with peers on projects	2.25	.71	Disagreed	2.54	.86	Agreed	2.81	.69	Agreed
9	I communicate effectively online using email etc	2.09	.64	Disagreed	2.53	.82	Agreed	2.85	.71	Agreed
	Cluster mean	2.36	.64	Agreed	2.88	.62	Agreed	2.90	.62	Agreed

Table 3 showed that cluster mean for female students was below the cut-off point of 2.50 while that of male students was above the cut-off point of 2.50. This implies that males perform better than females in ICT use, females lack ICT skills and is affecting their performance. Females lack exposure to ICT tools and so many males see ICT use as their future career. Females have phobia than males in ICT use, females are less exposed to ICT tools than males and females see ICT tool and their uses as boring. The standard deviation of male and female students range between 0.56 to 0.71. This indicates that the variability across items is relatively consistent.

Discussion of the Findings

The results from research question one showed that male students have more access to ICT tools and are more proficient in using them compared to their female counterparts. Male students also showed greater confidence and adaptability in using ICT facilities, while female students were observed to have limited exposure and access to ICT tools. These findings align with the study by Van Dijk (2020), which highlighted differences in access to ICT resources as one of the core dimensions of the digital gender divide. Similarly, Goudeau *et al*. (2021) emphasized that societal and cultural constructs often limit female students' access to ICT tools, further perpetuating the gender gap.

The findings from research question two revealed that male students tend to spend more time using ICT tools for academic purposes compared to female students. Factors such as domestic responsibilities, cultural expectations, and limited parental support were identified as barriers preventing female students from dedicating sufficient time to ICT usage. This aligns with the findings of Siddiq and Scherer (2019) as well as Okotubu (2024), who reported that societal roles often place additional burdens on female students, limiting their time and engagement with ICT tools. Interestingly, male students were observed to spend more time in ICT laboratories, browsing the internet, and participating in online academic activities. Female students, on the other hand, reported challenges balancing their domestic responsibilities with ICT engagement. This observation supports Goudeau *et al*. (2021), who stated that male students generally have more freedom to explore ICT tools and online platforms.

The results from research question three also indicated that male students outperform female students in ICT usage. Male students demonstrated higher confidence, proficiency, and willingness to experiment with ICT tools. On the contrary, some female students reported phobia and lack of confidence in using

ICT tools, which ultimately affected their performance. These findings are consistent with Campos and Scherer (2024), who observed that boys generally hold more positive attitudes towards technology, leading to better ICT-related outcomes. Additionally, male students showed greater enthusiasm in exploring ICT as a potential career path, while female students exhibited hesitance and fear of failure. This resonates with Ayoob and Bhat (2016), who noted that cultural and societal norms often discourage female students from fully participating in ICT-related fields.

Conclusion

Base on the finding on the study it was concluded that there is gender difference in the use of ICT among students in colleges of education in Anambra State. It was also concluded that male students spend more time than the female students in the use of ICT in colleges of education in Anambra State. Lastly the fining concludes that both male and female students performed better when ICT is used in the instructional process to facilitate learning.

Recommendations

From the findings of the study, it was recommended that:

1. Female students should be highly motivated in the use of ICTs in schools by way of giving awards and scholarships to female students in colleges of education.
2. Since male students spend more time using ICT tools for academic purposes compared to female students, educators should strive to make female students learn to use ICT tools for academic purposes.
3. Male students were found to outperform female students in ICT usage. It is there recommended that educators help female students to improve in their performance in ICT usage.

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