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USING E-LEARNING TO IMPROVE THE PERFORMANCE OF FIRST YEAR NURSING STUDENTS IN I.C.T

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KeyWords

Students(nurse), E-learning, Education, Technology, Information, Communication, Performance.

ABSTRACT

Background: E-learning denotes to the use of information and communication technologies to help retrieve teaching and learning resources online. The combination of education and technology has been regarded as the chief key to human improvement. Education sustains technology which in turn forms the foundation of education. Information technology in a way has influenced changes to the method, purpose and perceived ability of education. The nursing colleges in Ghana use technology in their education. The study intends to evaluate the use of E-learning to progress the performance of first year students in ICT.

Methods: The study employed a simple random sampling technique to enroll participants. Closed ended questionnaire was given out to 85 first year nursing students to solicit their views on use of E-learning to improve their performance in ICT.

Results/Discussion: The study revealed that not all first-year nursing students get the chance to sit by one computer making the computers insufficient to cater for the large size of student that go to the ICT laboratory. This made learning of ICT theoretically based which hindered the students understanding of the subject. Students indicated that e-learning have actually increased their engagement and again added value of flexibility in the learning of ICT anytime.

Conclusion: The study concluded that e-learning affects students' performance in ICT and also recommends that colleges should provide bigger laboratory with many computers to cater for the larger size of the students and also teachers should give students more hands-on practical activities in ICT lessons in order for them to grasp the ICT skills.

Background

With the establishment of new technologies particularly the computer and the internet joined with it confronts to the society has surfaced way of life and methods to teaching and learning. The internet has turn out to be one of the vital ways to make accessible resources for investigation and learning for both teachers and students to disclose and acquire evidence [1].

Information Communication Technology is regarded as a key tool for building knowledge institutes [2].

The application of computers, mobile tools, and the Internet is at its maximum level to date and projected to continue to upsurge as technology turn out to be more accessible, especially for consumers in developing states [3].

According to Folami & Adeoye (2012), students testified highest competencies with value to computer literacy, having positive feelings towards ICT uses, able to evaluate ICT in an informed way, efficiently search on-line information bases and comprehend the use of nursing workload facts to clinical output management [4].

A study in Ghana conducted by Dery et al. (2016) indicated that students have adequate knowledge and use of computers [5].

Developments in information communications technology (ICT) has influenced every sphere of human life together with health care experts and the delivery of health care. Training colleges have integrated ICT into all spheres of student life and technique in varying grades. Regardless of the advances, in ICT usage in nursing education worldwide, trials exist in accepting it in the training institutions [6].

The Kofi Annan Information Ichnology Centre was constructed to teach and advance Ghanaians in the discipline of ICT competencies. The beginning of ICT has generated great transformation in most states and in the nursing colleges. Computers have now turn out to be the core of information and learning across the internet which backing most human and non-human doings.

In viewpoint of all development, most students do not contain the competency and even the desire of using the internet to quest for pertinent information that will help them to progress upon their academic performance of numerous subjects taught in colleges. For this reason, there is the need to deliberate on how to use the internet as a free of charge platform for learning including the use of software lessons, participating technique in all practical instructions to enable them collect appropriate information from the internet, generate e-mail and post mails to develop upon their academic performance, and above all to cause the use of the internet more exciting to students.

Methodology

Study Design/ Sampling Technique

The study employed an action research design. Simple random sampling technique was used to make sure that every first-year nursing student had equal fate of been selected.

Study Population

The population consisted of first year nursing student nurses who were three hundred and nine (319). Nonetheless, only 108 students were selected for the study. The distribution of the first-year students were from general nurse class, midwifery class, and nurse assistant clinical class.

Sampling Procedure

Sample Size Determination

The sample size for the study was created using De Vaus (2002) formula for sample size determination [7].:

Where:

$$n = \frac{N}{1+N(a)^2}$$

n = sample size,

N= population Size

a = the confidence level

The formula adopted a confidence level of 95% and the margin of error is therefore 5% which is acceptable in social science research.

The break down for the sample size is calculated as follows:

$$n = \frac{N}{1+N(a)^2}$$

$$n = \frac{108}{1+108(0.05)^2} \gg n = \frac{108}{1+108(0.0025)} \gg n = \frac{108}{1+0.27} \gg n = \frac{108}{1.27} \gg n = 85.04$$

n = 85 respondents

The rundown of the sample size as per the formula used, arrived at a sample size of 85 out of 108 first year students.

Data Collection Procedure

The researcher assured the respondents the confidentiality by addressing to them that the exercise was primarily for academic intentions and that no one would fall a prey because of any adverse findings. This was performed in order to inspire them to offer their replies without reservation.

The questionnaires were distributed to the first-year nursing students to find out their performance in I.C.T. A day was used to administer the questionnaires as respondents were asked to fill it independently. The researcher observed the student's quizzes papers and grades to find out their performance in ICT during the first semester examination. Two weeks were used to do this activity.

Data Collection Instruments

The instruments used in collecting data for the study was questionnaire (close-ended questions) and observation to ask information from the respondents administered.

Results

Socio-demographic characteristics of participants

As outlined in table 1 below, majority, 72 (84.7%) of study participants were female. A little above half 44 (51.8%) of these participants were 23 years and above.

Table 1.

Characteristics of the Respondents

Variables	Frequency (85)	Percentage (%)
Gender		
Male	13	15.3
Female	72	84.7
Age		
18-20years	17	50.0
21-22years	24	32.4
23 and above	24	13.5

Table 2

To what extent do students use the computer.

In order to assess the extent to which the first-year students use computer, the researcher administered questionnaire to solicit their assessment of their own interest level and computer usage both at home and in school.

Variable	Frequency (f)	Percentage (%)
<i>Students learning ICT in college.</i>		
Yes	62	73.8
No	11	13.1
Maybe	11	13.1
<i>How ICT lesson is taught in the college</i>		
Theory	49	62
Practical	30	38
<i>'Do you have a well fitted lab with computers</i>		
Yes	68	80
No	14	16.5
Maybe	3	3.5
<i>Do every student get to sit by one computer in ICT class</i>		
Yes	45	55.6
No	36	44.4
<i>Are you allowed to practice in the lab after ICT classes</i>		
Yes	40	48.8

No	42	51.2
<i>What do you normally use the computer to do when given the chance to use them</i>		
Gaming	1	1.2
Entertainment	8	9.8
Learning	73	89
<i>Do you use the internet</i>		
Yes	79	95.2
No	4	4.8
<i>What do you use the internet for</i>		
Games	0	0
Research	80	97.6
Social network	2	2.4
<i>Do your teachers use the internet when teaching ICT lessons</i>		
Yes	47	57.3
No	18	22
Maybe	17	20.7
<i>How often do you use the internet to learn</i>		
Very often	13	15.3
Often	32	37.6
Sometimes	38	44.7
Never	2	2.4
<i>Does the use of E-learning encourage you to learn</i>		
Agree	36	42.9
Strongly agree	5	6
Neutral	28	33.3
Disagree	9	10.7
Strongly disagree	6	7.1

As shown in the table 2 above, among the first-year students, 62 (73.8%) learn ICT in college, 49 (62%) supported the notion that ICT lesson is taught in college. Also, 68 (80%) of the participants claimed there is a well fitted lab with computers. Adding to this, 45 (55.6%) participants indicated that every student sits by one computer during the ICT class. Forty-two (51.2%) of the participants are not allowed to practice in the lab after ICT class. Most participants 73 (89%) use the computer to learn when they have the chance, 79 (95.2%) participants do use the internet and 80 (97.6%) of the participants use the internet for research. Moreover, 47 (57.3%) claimed teachers use the internet when teaching ICT lessons, 38 (44.7%) of participants sometimes use the internet to learn and 36

(42.95) of the participants agreed on E-learning encouraging them to learn.

Table 3

Impact of E-learning on students' achievement

The study administered a questionnaire to assess first year students views on the impact of e-learning on students' achievement. The results of the data gathered showed that most of the first years conceded that e-learning has actually impacted on their learning practices and engagement heading to high achievement in class.

Variable	Frequency (f)	Percentage (%)
<i>The use of E-learning has increase students' engagement in ICT class</i>		
Strongly disagree	5	5.9
Disagree	13	15.3
Neutral	19	22.4
Agree	44	51.8
Strongly agree	4	4.7
<i>The use of E-learning has motivated students to learn other subjects well</i>		
Strongly disagree	7	8.2
Disagree	10	11.8
Neutral	26	30.6
Agree	38	44.7
Strongly agree	4	4.7
<i>The use of E-learning has increased the confidence level of students</i>		
Strongly disagree	7	8.2
Disagree	11	12.9
Neutral	26	30.6
Agree	37	43.5
Strongly agree	4	4.7
<i>E-learning has facilitated the engaging of learner experiences</i>		
Strongly disagree	7	8.2
Disagree	18	21.2
Neutral	18	21.2
Agree	36	42.4

Strongly agree	6	7.1
<i>The use of E-learning has added value of flexibility (anywhere, anytime, any day)</i>		
Strongly disagree	7	8.2
Disagree	14	16.5
Neutral	16	18.8
Agree	37	43.5
Strongly agree	11	12.9

As indicated in table 3 above, among the first-year students, 44 (51.8%) agreed that E-learning had increased students' engagement in ICT class. Again, 38 (44.7%) of participants claimed E-learning has motivated students to learn other subjects well and also, 37 (43.5%) agreed E-learning has increased students' confidence level. Thirty-six (42.4%) of participants agreed E-learning had facilitated the engagement of learner experiences and 37 (43.5%) agreed E-learning added value of flexibility anywhere, anytime and any day.

Discussion

Extend to which students use computers in college.

The findings from the present study reveal that ICT is being studied in colleges as a subject. However, not all students get the chance to sit by one compute in the laboratory making it inadequate considering the number of students in every class that goes to the laboratory to study ICT. This usage is affirmed in a study by Vega-Hernández, Patino-Alonso, and Galindo-Villardón, (2018). Most students use the computers to learn and do research when the chance is given and moreover ICT learning is taught mostly theoretically in class [8].

According to the study by Yieng & Saat (2018), student patronage of computers usage was low. It also agrees with students' practice being low in the ICT class. In relation to the present study, possible explanation could be due to the current study center provision of computers [9].

Effect of E-learning on students' performance

This present study shows e-learning has increased students' engagement in ICT class, motivated them to learn other subjects and also added a value of flexibility to learning. For that reason, learning can take place anywhere, anytime and any day through the use of e-learning.

Gloria (2015) researched into the relationship between e-learning and students' academic achievement in Hong Kong. The study concluded that e-learning has a significant positive impact on student's educational overall academic achievement. This makes her findings consistent with this current study [10].

Conclusion

The main purpose of the study was to assess the using of e-learning to improve the performance of first year nursing students in ICT. This research showed the need for e-learning to be in cooperated as students agreed to the fact that the it helped increase their per-

formance. There were not enough computers so there is the need for colleges to increase the number of computers to be able to allow each student to participate or with the few ones around students can go into batches.

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References

- [1] Richard, H., & Haya, A. (2009). Examining student's decision to adopt technologies: theory and empirical tests. *Journal of computing in higher education*, 21(3), 183-198.
- [2] UNESCO Communiqué of the ministerial roundtable on 'Towards Knowledge Societies' UNESCO Paris 2003 [[Google Scholar](#)]
- [3] Poushter, J. (2016). *Smartphone ownership and internet usage continues to climb in emerging economies*. Washington, D.C.: Pew Research Center Retrieved from <http://www.pewglobal.org/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies/>.
- [4] Folami, F. & Adeoye. F. B. (2012). Assess the information and Communication Technology (ICT). Educational Needs of Nursing Students at Milikin University. Retrieved from https://scholar.google.com/scholar?hl=en&as_sdt=0%2c5&q=ict+in+nursing+education&oq=ict+in+nur#d=gs-qabs&u=%23p%3DRzarvZYUnCI
- [5] Dery, S, Vroom. F. D, Codi. A, Afagbedzi. S, & Dwomoh. D. (2016). Knowledge and use of information and communication technology by health science students of university of Ghana. Retrieved from <https://www.ajol.info>
- [6] Puckere. T, Maharaj. S, & Mshungare. N. (2017). Status of Usage of Information Communication Technology on Academic Staff at a selected Nursing Training Institutions in South African. Retrieved from <https://doi.org/10.1080/0975122.2015.1890273>
- [7] De Vaus, A. D. (2002). *Surveys in Social Research*, Allen & Unwin, Crows Nest, NSW, Australia.
- [8] Vega-Hernández. M, Patino-Alonso. M, and Galindo-Villardón. M. (2018). Multivariate characterization of university students using the ICT for learning. Retrieved from <https://doi.org/10.1016/j.compedu.2018.03.004>
- [9] Yieng. L. P, & Saat. M. R. (2018). Use of Information Communications Technology (ICT) in Malaysian Science Teaching; A Microanalysis of TIMSS 2011. Retrieved from <https://doi.org/10.1016/j.sbspro.2013.10.456>
- [10] Gloria Mothibi. (2015). A Meta-Analysis of the Relationship between E-Learning and Students' Academic Achievement in Higher Education. Retrieved from <http://iiste.org/Journals/index.php/IJEP>