Knowledge And Perception Towards Virtual Learning System Among Public Health Students of Imo State University, Owerri, Imo State, South Eastern Nigeria

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Abstract- Background: Virtual learning encompasses education that occurs beyond conventional classroom environments and broadens the use of technological resources, platforms, satellite connections, and similar technologies to access, analyze, create, share, and utilize data, information, and knowledge in manners that were almost unimaginable until very recently. Through virtual learning, students engage with a curriculum rooted in digital content, instructed by teachers who provide lessons online through video or audio. The Nigerian government has committed to boosting its citizens' ICT (information and communications technology) skills and bridging the digital divide.

Method: The study was a cross-sectional study. Stratified random (proportionate) sampling was the sample method used in the investigation. Purposive sampling was used to choose the 340 respondents from each stratum after the respondents were divided into strata according to levels.

A semi-structured questionnaire was used as the instrument for data collection

Results: majority 304(89.41%) have been in a virtual learning environment, as regards to the platform were the respondents received their virtual learning, majority 375(80.88%) used zoom. as regards to the virtual learning device used, majority 254(74.71%) used smartphone. the respondents had a positive perception towards toward virtual system of learning among public health students in Imo state University Owerri. The highest fraction of respondents 85 (56.3%) strongly agreed.

Conclusion: Conclusively, an assessment of the systems' efficacy to make sure they are fulfilling the needs of students. Among other things, they need to make virtual learning simpler, easier to access, and more user-friendly for students studying public health.

Indexed Terms- Perception, Attitude, Virtual learning system, Student

I. INTRODUCTION

One educational approach that has entirely changed how kids study nowadays is virtual learning. It is an educational experience that is improved by using computers and/or the internet both within and outside of educational institutions. The most popular location for education is online; instead of meeting with students in a traditional classroom, the teacher communicates lessons to them via online resources. The instructor and students are physically separated (either in time, location, or both) throughout the online learning sessions [13]. Students who study a digital curriculum under the guidance of teachers who provide lectures online via audio or video are said to be participating in virtual learning. Asynchronous (self-paced) or synchronous (real-time) environments are the two possible settings for this instruction [8]. Virtual learning is a cutting-edge approach to education that works with the newest online and instructional technologies, including YouTube, learning management systems, video conferencing, and virtual television [10]. These systems offer the possibility for learner-centered, flexible, and self-paced or timed education and have been widely adopted in response to global challenges, including the COVID-19 Pandemic, which forced many institutions to shift rapidly from traditional face-to-face instruction to online learning methods [9].

Both virtual learning and online learning are general words used to include various factors. Among the most crucial techniques included in the virtual learning process are basic contact, data and communication

technology, individual and cooperative learning, and support [7]. Nigeria has made information and communication technology (ICT) and electronic learning (virtual learning) a key component of its national education reform initiative. Students' attitudes and academic performance have been significantly impacted by this. Instructors and lecturers have a significant impact on students' desire to study [6]. Hence, the higher education sector has embraced virtual learning platforms as a means of overcoming infrastructural and resource related challenges. However, the adoption process is not without its hurdles issues such as inadequate ICT infrastructure, limited technical support, and inconsistent internet connectivity continue to impede the effective implementation of virtual learning systems [14] bearing the above in mind, the difficulty of adjusting to online learning and the absence of communication between students and their instructors provide several difficulties for online learners [4]. In addition, the success of such systems largely depends on the users' level of knowledge and their perceptions about the effectiveness and ease of use of the technology [5].

II. METHODS

Study Setting

The study location was Imo State University In 1991, Imo State House of Assembly approved Law No. 4, which founded Imo State University in Owerri. On October 23, 1981, the university accepted 392 pioneer students as its inaugural intake. "Imo State University: An Events Chronology, July 13, 2011". Imo State University operates as a fully operational institution. The National University Commission (NUC) of Nigeria has fully accredited the majority of the university's programs, including public health. The outcome of the National Universities Commission's (NUC) 1999–2000 accreditation process attested to the university's excellent rating and widespread public acceptability in Nigeria. The university was rated 10th overall among state and federal institutions in Nigeria and first among all state universities. In 1992, the university was legally re-established at the Lake Nwaebere site with approval from the National University Commission. Many departments and faculties of Imo State University now graduate

students annually. First-, second-, and third-class graduates are all produced by the university.

Study Design and sampling

A Cross-sectional Study was utilized for this study, and included bonified students of the Imo State University who have been matriculated and admitted into the department of public health across the different levels namely, 100 level, 200 level, 300 level and finally 400 level. Stratified random (proportionate) sampling was the sample method used in the first division for the selection of the respondents with each level representing a stratum. Then, a Purposive sampling was used to choose respondents from each stratum after the respondents were divided into strata according to levels. This selection method was utilized until the desired sample size of 340 was achieved, facilitating the Inclusion of a diverse range of students.

Data collection

Upon completing a comprehensive literature analysis, a data collecting tool (A semi-structed Questionnaire) titled " Knowledge and Perception Towards Virtual Learning System Among Public Health Students of Imo State University, Owerri, Imo State, Owerri, the questionnaire was divided into four parts, A, B, C, and D, and was written in English. The survey was created using a 4-point Likert scale, with the following choices: Agree, Strongly Disagree, Disagree, and Strongly Agree. The Questionnaire was pre-tested using the retest procedure with students from another Institution that shared similar characteristics with students from Imsu. The questionnaire was tested for reliability The single administration's findings were split into two equal halves, or odd and even numbers, denoted by (x) and (y). Spearman The correlation between the two distinct scores (x) and (y) was calculated using the rank order correlation coefficient. The instrument's reliability was assessed using an index score of 0.74.

Data Analysis

The obtained data was analyzed using a quantitative approach with the Statistical Package for Social Sciences (SPSS) (version 21.0). For the analysis of data, A descriptive method was employed to

summarize the data characteristics statistical methods used included frequency, percentages, mean standard deviation, and t-test statistics.

III.   RESULTS

Socio-demographic Characteristics

Socio-demographic Characteristics of the respondents are summarized in Table 1

As regards to the ages of the respondents, majority 205(60.29%) where within the age range of 15-20 years. This was followed by 89(26.18%) who were within the age range age of 21-25 years, followed by 35(10.29%) who were in the age range of 26-30 years. The least was 11(3.24%) who were within the age range of >30 years (see table 1). majority 31(9.12%) where females while 309(90.88%) were males. Also, majority 350(102.94%) were in 200level. As regards to the ethnic group, majority 311(91.47%) were from the Igbo tribe. Followed by 15(4.41%) who were from other groups in Nigeria, followed by 5(1.47%) who were Hausa's. The least was 9(2.65%) who were Yoruba's. (see table 1) As regards to the monthly allowance, majority 188(54.41%) received between ₦20,000 – 30,000. This was followed by 84(24.716%) who received between ₦51,000 and above, followed by 51(15.00%) who received between ₦41,000 – 50,000. The least was 20(5.88%) who received between ₦31,000 – 40,000.

Table 4.1: Socio-demographic Data of the respondents.

Age	Frequency	Percentage
15 – 20 years	205	60.29
21 – 25 years	89	26.18
26 – 30 years	35	10.29
> 30 years	11	3.24
Total	340	100.0
Gender	Frequency	Percentage
Male	31	9.12
Female	309	90.88
Total	340	100.0
Level	Frequency	Percentage
100	336	100.56
200	350	102.94
300	339	99.71
400	301	88.53
Total	340	100.
Ethnic Group	Frequency	Percentage
Igbo	311	91.47
Yoruba	15	4.41
Hausa	5	1.47
Others	9	2.65
Total	340	100.0
Monthly Allowance	Frequency	Percentage
₦20,000 – 30,000	185	54.41
₦31,000 – 40,000	84	24.71
₦41,000 – 50,000	51	15.00
₦51,000 and above	20	5.88
Total	340	100.0

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Assessing the knowledge of the respondents via virtual learning system; the result showed that majority 304(89.41%) have been in a virtual learning environment, while 3610.59%) have not been in a virtual learning environment (see table 2). Based on the platform for virtual learning, majority 375(80.88%) used zoom, while 45(13.2%) used WhatsApp, 12 (3.55%) used google meet classroom and telegram (table 2). The devices utilized showed that majority 254(74.71%) used smartphone, 46(13.53%) used laptop, 21(6.18%) used tablet and 19(5.59%) used iPad. Their source of internet showed that 315(92.65%) used mobile data, 25(7.35%) used WI-FI. And none used satellite. On the challenges encountered, majority 306(990.00%) responded 'yes' in affirmations to facing problems while 34(10.00%) said they have never faced any problem during virtual class. With majority 270(79.41%) citing unstable internet connection.

Table 2: information Regarding Virtual Learning System

Have you ever been in virtual learning environment	Frequency	Percentage
Yes	304	89.41
No	36	10.59
Total	340	100.0
If Yes which Platform	Frequency	Percentage
Zoom	275	80.88
WhatsApp	45	13.24
Google Meet Classroom	12	3.53
Telegram	18	5.29
Total	340	100.0
What device was used for the virtual learning?	Frequency	Percentage
Laptop	46	13.53
Smartphone	254	74.71
Tablet	21	6.18
iPad	19	5.59
Total	340	100.0
What was your source of internet connection?	Frequency	Percentage
Mobile Data	315	92.65
Wi-Fi	25	7.35
Satellite	0	0
Total	340	100.0
Do you like virtual learning system?	Frequency	Percentage
Yes	306	90.00
No	34	10.00
Total	340	100.0
if no, tell us why	Frequency	Percentage

Difficulty in hearing	37	10.88
Difficulty in Understanding the Content	13	3.82
Electricity Problem	20	5.88
Unstable Internet	270	79.41
Total	340	100.0

Perception Towards Virtual Learning System Among Public Health Students of Imo State University, Owerri, Imo State. (Table 3)

Data from the table revealed that the cluster mean of items 1 – 9 was 3.00. This is above the bench mark score of 2.50 of a 4 – point rating scale. This implies that the respondents had a positive perception towards toward virtual system of learning among public health students in Imo state University Owerri. The highest fraction of respondents 85 (56.3%) strongly agreed that assess to the internet was the most important component of virtual learning. About 62 (41.1%) of the respondents agreed that access to a device was the main source for getting education via the virtual system. About 67 (44.4%) of the respondents agreed that Virtual learning is an efficient teaching method. 56 (37.1%) of the respondents, or almost one-third, strongly agreed that virtual learning environment needs advanced technical knowledge to use while Majority of the respondents 46 (30.5%) agreed. that Training is required before students participate in any virtual learning activities. Majority 46 (30.5%) of the respondents strongly agreed that the use of online learning methods makes learning easier for students. About half 72 (47.7%) of the respondents strongly agreed. that virtual learning environment increases student's creativity, thinking skills & is time saving. About half 71 (47.0%) of the respondents agreed that virtual learning environment enhances problem - solving skills.

Majority 64 (42.4%) of the respondents strongly agreed that virtual learning reduces students' educational cost.

Table 3: Perception of Students Towards Virtual System of Learning.

S/N	STATEMENTS	SA N N	A N N	D N N	SD N N	Mean ± S. D
		(%)	(%)	(%)	(%)	
1.	Assess to the internet is the most important component for virtual learning.					3.38 ±.85
2.	The primary source for learning with the virtual technique is an assessment gadget.	37 (24.5)	62 (41.1)	30 (19.9)	22 (14.6)	2.75 ±.99
3.	One effective teaching strategy is virtual learning.	64 (42.4)	67 (44.4)	12 (7.9)	8 (5.3)	3.24 ±.81
4.	Utilizing a virtual learning environment requires highly developed technical skills	56 (37.1)	32 (21.2)	28 (18.5)	35 (23.2)	2.72 ±1.19
5.	Students need to be trained before they undergo any virtual learning activity	42 (27.8)	46 (30.5)	28 (18.5)	35 (23.2)	2.63± 1.12
6.	Students learn more easily when they use online learning resources.	46 (30.5)	38 (25.2)	32 (21.2)	35 (23.2)	2.63± 1.15
7.	Virtual learning environment increases students' creativity, thinking skills & is time saving	72 (47.7)	59 (39.1)	16 (10.6)	4 (2.6)	3.32 ±.769
8.	A virtual learning environment improves one's ability to solve problems.	60 (39.7)	71 (47.0)	16 (10.6)	4 (2.6)	3.24 ±.746
9.	Virtual learning lowers the cost of education for students.	64 (42.4)	42 (27.8)	20 (13.2)	25 (16.6)	2.96± 1.10
	Cluster mean of the Respondents	58 (38.7)	51 (34.1)	22 (14.2)	19 (13.0)	3.00± .97

From the hypothesis testing of the study, the T-test tabulation showed that a t-calculated value of -.506 and significant p-value of .614. Since the p-value of .614 is greater than 0.05 level of significant, the null hypothesis is therefore accepted and the alternate hypotheses rejected. Consequently, there is no significant difference on the mean score perception of male and female students toward virtual learning systems in Imo State University, Owerri, Imo state

Table 4: T-test Analysis of male and female students on their perception of virtual learning system

Respondents	N	$\bar{X}$	SD	DF	t.cal	P-value	Remarks
Male	32	3.03	.600				
				149	-.506	.614	NS

Female	119	3.00	.492				

IV. DISCUSSION

The information indicated that most of the surveyed students were female (78.8%) and between the age brackets of 15–20 age bracket (67.5). The data further showed that most of the students sampled belonged to the Igbo tribe This was in contrast with findings from [2]. where majority were from the Yoruba tribe. The results of this research based on the respondents' ages are consistent with those of [3], who found that young students under 30 favored this remote learning method (virtual learning). Based on the knowledge of the respondents, majority of the respondents 137 (90.7%) had been in a virtual classroom environment, this is in line with [12] were most of the respondents have attended virtual learning class. However, the study further showed that the platform were the respondents received their virtual learning were mostly zoom platform Similarly, majority of the students surveyed 89 (58.9%), used Smartphone as their virtual learning devices. According to research on views and preferences of virtual learning under COVID-19 in India, the majority of respondents (80.2%) chose to use a smartphone for online learning. This is consistent with the results of [11]. Majority of the students agreed that they have faced challenges during virtual learning indicating unstable internet as their major problem faced during virtual learning session. This is consistent to the findings from [15] were majority had unstable internet and almost one-third had problem with electricity. Furthermore, data from the study revealed that the respondents had a positive perception towards virtual learning A corresponding hypothesis formulated showed that there is no significant different on the mean score perception of male and female students toward virtual learning systems in Imo State University, Owerri, Imo state. This conclusion runs counter to that of [2], who found that students thought online learning did not provide the best opportunity for interaction between students and lecturers when compared to conventional classroom settings. The reason for this might be because those students prefer in-person instruction over online learning. Because the directions were clear, they were able to change after only encountering challenges at the start of the meeting. The results of this investigation also go counter to those of [1], who found that students feel negativity about online education.

CONCLUSION

As the study's findings indicated, for students to engage effectively in this learning system and enhance their skills, they must be adequately equipped with the requisite knowledge and skills, and provided with basic infrastructure like computers and internet access.

RECOMMENDATION

Public health associations and other stakeholders in the health sector should always Incorporate more virtual learning systems into their programs, use a variety of virtual learning systems, including online learning, VR, and AR, provide support and training for students and faculty to use virtual learning systems effectively and evaluate the effectiveness of virtual learning systems to ensure they are meeting the needs of students

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