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Lecturers Level of Awareness and ICT Utilisation for Teaching Health Education in Nigeria Colleges

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Abstract: Information and communication technology (ICT) greatly influence teaching and learning in higher education by facilitating both the instructional and learning processes. While studies have been accomplished in developed countries on the use of ICT in education, revealing a positive correlation between ICT knowledge and professional development in teacher education programs, there is a lack of research on college lecturers' awareness and use of ICT in teaching and learning in Nigerian institutions. Therefore, the purpose of this study was to investigate lecturers' level of awareness of ICT and ICT utilisation for teaching Health Education in Nigeria. A descriptive research design was adopted. A total of 515 respondents were chosen through a multistage sampling technique. Respondents completed the Information and Communication Technology Competencies for Teachers Questionnaire (ICTCTQ). The findings of this study showed that lecturer's knowledge of ICT is relatively high. Notwithstanding, they hardly utilised ICT resources for teaching Health Education courses. The result further indicated that there was a significant difference in lecturer's knowledge of ICT and utilisation of ICT in teaching Health Education ($t=76.359$, $df=59$, $p<0.05$). Lecturer's knowledge of ICT

had a greater mean of 21.0000 while the utilisation had a mean of 11.51556, indicating a mean difference of 9.4844. Going by the findings of this study, it was important to place the emphasis on attitudinal change of lecturers towards the use of information and communication technology. This is because attitudes towards the use of ICT appears to be a major factor that determines whether a potential user would utilise ICT. Therefore, there is a need for training and re training of college lecturers on attitudinal change towards the use of ICT.

Keywords: ICT, instruction, pedagogy, health education.

Introduction

The use of ICT applications has become an essential element in education, impacting learning both inside and outside traditional classroom settings. According to Daramola (2023) the term information and communication technologies (ICTs) is a more inclusive term for information technology (IT), which includes all media applications and services that enable users to access, retrieve, store, transmit, and manipulate digital information, including the internet, wireless networks, smartphones, computers, software, middleware, video conferencing, and social networking.

Given its significance in both teaching and learning, the role of Information and Communication Technology (ICT) in maintaining education cannot be overstated (Obielodan et al., 2020). In other words, the efficient use of ICT significantly contributes to raising the standard of instruction both within and outside of the classroom (Mohammed & Haroun 2017). ICT can be utilised in the classroom for many different things, including managing the operations and administration of the school, teaching and learning ICT-related skills to improve the presentation of class work, teaching and learning repetitive tasks, teaching, and learning intellectual thinking and problem-solving skills, stimulating creativity and imagination, conducting research, and acting as a tool for teacher-student communication (Adewoye & Olaseni, 2022).

According to Aishah and Zemah (2017) implementing ICT in schools results in enhanced imaginative, innovative, and critical thinking abilities, alongside increased productivity, efficiency, and educational success. They noted that Information and communication technology (ICT) greatly influence teaching and learning in higher education by facilitating both the instructional and learning processes. It is a catalyst for changes in the classroom, educational institution, community, and system since it offers the chance for individualised, flexible, and asynchronous learning as well as a change in the focus of learning from instructor to student. It has a multiplier effect throughout the educational system by improving student learning, assisting students in acquiring new skills, promoting social mobility, and assisting citizens in competing in the global market (Bukar et al., 2016).

Thakral (2015) noted that the easy access to learning is one of ICT's most important contributions in the field of education. Students can peruse e-books, sample test papers, and other materials with the aid of ICT. Additionally, they have easy access to global networks of peers, mentors, professionals, researchers, and other resources. This flexibility has increased the accessibility of just-in-time learning and provided learning chances to many learners who were previously constrained by other obligations. Better teaching can be promoted by making best practices and course materials more widely available in education. These can be shared via ICT (Aishah & Zemah, 2017).

In order for ICT integration to be successful in schools, Ogbomo (2011) emphasizes the importance of developing a range of skills across the educational system. Ogbomo (2011) also outlines five key areas for teacher professional development to support this integration: proficiency in using technology, integrating IT into the existing curriculum, adapting the curriculum to incorporate IT, redefining the

teacher's role, and providing support for new educational approaches. Ogbomo (2011) asserted that pre-service teacher training should ideally address these, and in-service teacher training should build upon and develop them. Training in ICT use is a prerequisite for teaching accreditation in several countries, such as Singapore, Malaysia, and the UK. Even the most tech-savvy educators must always update their knowledge in the field of the most recent advancements and industry best practices because ICTs are rapidly growing technologies. While the importance of the first focus skill with applications is evident, it is crucial to acknowledge that the other four skills are equally, if not more, important.

According to Ratheeswari (2018) one barrier to success that has been repeatedly found over the years in research on the use of ICTs in various educational contexts is instructors' inability to understand why and how precisely they should utilise ICTs to improve their teaching. Unfortunately, most of the ICT-related teacher professional development focuses more on "teaching the tools" than on "using the tools to teach." Teachers' concerns about technology replacing them or about losing control of the classroom as instruction becomes more interactive are impeding the adoption of ICT. Asubiojo and Lawrence (2019) remarked that the adoption and implementation of ICT in schools could face limitations due to factors such as expenses, availability, and ease of access.

Raja and Nagasubramani (2018) argued that the utilisation of ICT is influenced by two main factors: internal and external elements. There is a connection between these two groups as well as the ICT usage level. Extrinsic factors like technology availability, ICT equipment accessibility, time available for lesson planning, support from technical and administrative staff, school curriculum, school climate and culture, faculty routines and teaching loads, and pressure to prepare students for national entrance exams all impact the effectiveness and progress of technology integration in schools. Raja and Nagasubramani (2018) stated that time constraints for course planning, the lack of access to computers and software, and insufficient administrative and technical assistance are the most prevalent of these external obstacles.

Moreover, Obielodan et al. (2020) contended that the integration of educators' pedagogical expertise into the teaching process are necessary for teachers to successfully use ICT in the classroom. Raja and Nagasubramani (2018) also agreed that by using ICT technologies, teachers at all levels of school can more quickly and effectively accomplish their pedagogical goals. In addition to mastering technical skills and procedures, compliance also involves understanding how and when to apply these abilities to enhance educational experiences in a conscientious and astute manner.

Esah and Rotua (2021) asserted that teachers and students can be revitalised using information and communication technology in the classroom. By offering curriculum support in difficult subject areas, this can support curricula and aid to increase the quality of instruction. To achieve these objectives, educators must collaborate on initiatives and implement strategic interventions, such as integrating ICT into collaborative teaching practices (Iskrenovic-Momcilovic, 2018).

The assessment of teachers' pedagogical understanding regarding the use of ICT in Kwara State, Nigeria, is documented in a report by Obielodan et al. (2020). The study's conclusions showed that respondents' educational expertise of ICT tools was lacking. According to the study's findings, the main barriers in the use of ICT for education were instructors' lack of expertise and confidence as well as their inability to devote enough time to learning new skills. It is suggested that respondents' lack of pedagogical expertise would have hindered them from using ICT for teaching purposes even in the case that the instruments were available.

Ohiwerei and Onimawo (2017) studied how younger and older lecturers in business education at Nigerian universities used information and communication technology. The study found that teachers

with up to three years of experience used computers 48% of the time, teachers with four to nine years of experience used computers 45% of the time, teachers with ten to nineteen years of experience used computers 47% of the time, and teachers with more than twenty years of experience used computers 33% of the time. The impact of ICT on university instructors' professional growth was examined by Ahmed et al. (2019). The study results indicated that 57.7% of faculty members felt that ICT helped improving teachers' professionalism, while 23% disagreed and 18.9% were unsure.

Although Studies have been conducted on the use of ICT by lectures and students in teaching and learning in developed countries (Ahmed, 2016; Okoliye, 2015), most of the findings indicated a significant positive relationship between knowledge of ICT and professional development in teacher education programme, only a small number of studies have been conducted in Nigeria regarding the awareness and use of ICT in teaching and learning within the country's institutions (Ibrahim et al., 2020; Odunlade, 2017). Therefore, the purpose of this study was to investigate lecturers' level of awareness of ICT and ICT utilisation for teaching health education in Nigeria.

Problem Statement

The utilisation of ICT in the teaching and learning process in tertiary institutions in Nigeria has been an issue that needs to be assessed to determine the extent to which ICT integration has impacted on knowledge delivery. Information and communication technology (ICT) can revolutionise the learning environment and, when properly implemented, may improve the learning process (Osinulu, 2020). The integration of various ICT resources has transformed the global educational environment. This development has prompted substantial funding into a variety of ICT tools for educational use. The incorporation of these resources in higher education facilities has proven to enhance the quality of instruction and learning, facilitating independent learning opportunities (Hamilton-Ekeke & Mbachu, 2015).

However, the effective utilisation of ICT is particularly evident when lecturers are aware and competent in the use of ICT facilities resource materials to enhance the teaching and learning process (Akuffo & Budu, 2019). Despite the benefits of using ICT in teaching and learning, Osinulu (2020) argue that their utilisation, particularly in colleges of Education in Nigeria, is still limited. One of the issues limiting the proper utilisation of ICT facilities in Nigeria colleges could be that lecturers may not be aware of the ICT programmes and perhaps lack the necessary competencies for ICT utilisation (Osinulu, 2020).

Although in some colleges in Nigeria, there are reasonable ICT structures and equipment that have been procured by the government to integrate ICTs in teaching and learning. However, these ICT resources are not effectively utilised, as many college lecturers still operate in an analogue age (Asubiojo & Ajayi 2023). This lack of noticeable improvement might be due to lack of clear understanding of the lecturers' level of awareness and ICT utilisation for teaching purposes before designing interventions. Therefore, a study design to investigate college lecturers' level of awareness of ICT and ICT utilisation for teaching in Nigeria is very critical in the design of interventions that can be responsive to the current realities of school system. Hence, this study analysed the extent of lecturers' awareness and utilisation of ICT for teaching health education in in Nigeria colleges.

Research Questions and Hypothesis

This study specifically aimed to provide answers to the following research question:

- Do lecturers have adequate knowledge of ICT for teaching Health Education courses in Southwestern Nigeria?

- Do lecturers utilise ICT resources for teaching Health Education courses in Southwestern Nigeria?

Research Hypothesis

- There is no significant difference between lecturers' knowledge of ICT and utilisation of ICT in teaching Health Education in Southwestern Nigeria.

Literature Review

The field of education has certainly been affected by the penetrating influence of ICT. ICT has revolutionised the way teaching and learning are conducted in higher institutions. Its impact has been profound and significant, transforming both the quality and quantity of education delivery. With the potential to accelerate, enrich, and deepen skills, ICT motivates and engages students in their learning journey. It also bridges the gap between academic experiences and real-world practices, creating economic opportunities for the future. Additionally, ICT facilitates connections between educational institutions and the global community, paving the way for a more interconnected world (Bolaji & Adeoye, 2022).

The utilisation of ICT by lecturers creates a powerful learning environment for students both within and outside the classroom settings. Effective utilisation of ICT in Nigerian higher institutions is very crucial to accomplishing many educational objectives and improving the quality of lessons within and outside the classroom settings (Babate & Bege, 2019). It remains one of the major tasks of lecturers to ensure that available ICT facilities are well utilised.

The application of ICT in the teaching and learning process should not be undermined if truly effectiveness and efficiency are to be achieved. According to Suleiman et al. (2020), Using ICT in education not only allows researchers to overcome barriers of time and distance, but also improves their ability to acquire knowledge and share it more easily and quickly, fostering greater enthusiasm.

The resourcefulness of ICT to academic staff of higher institution has been reported (Hamilton-Ekeke & Mbachu, 2015). Studies have shown that the integration of ICT in teaching offers different forms of multimedia channels that provide a variety of approaches and expertise (Ifinedo et al., 2019). The use of ICT in teaching has also been found to be relevant in offering guidance for students self-learning; critical evaluation of students' performance and facilitation of high-quality skills for communication (Ferede et al., 2022).

Considering the benefits of ICT, the Federal Government of Nigeria developed an ICT policy in 2001. This policy led to the establishment of the National Information Technology Development Agency (NITDA). Among the objectives of NITDA are to ensure that ICT resources are readily available to promote efficient national development; and to integrate ICT into the mainstream of education and training.

However, studies relating to lecturers' level of utilisation of ICT facilities for teaching purposes has presented conflicting results. While some findings showed a low level of utilisation of ICT in teaching (Olelewe & Okwor, 2017; Yushau & Nannim, 2020), others indicated that the utilisation level is high (Emeasoba & Ezenwafor, 2015; Enakrire & Ocholla, 2017). Although, the report indicated that where some of these ICT facilities were available, there appeared to be the problem of the lack of awareness of their availability by the lecturers, therefore, grossly underutilised (Atinmo & Isiaka Amusa, 2016; Tella et al., 2017).

For example, in their 2017 study on e-learning (ICT) in Nigerian universities, Enakrire and Ocholla emphasised the appeal of ICT as a promising new educational model. They pointed out that implementing ICT has the potential to have a positive impact on the advancement of education in developing nations, particularly in Nigeria. According to him, the awareness ICT among the higher institutions is very high but investment and commitment to developing an e-learning application is very poor and below expectation. On the other hand, Odelewe and Okwor (2017) found that lecturers are not utilising ICT facilities in their teaching. A similar low utilisation of ICT facility in teaching was earlier reported by Atinmo and Isiaka Amusa (2016) that the reasons for low utilisation of ICT facilities in teaching is mainly lack of computer knowledge and skills for effective utilisation of ICT in teaching.

Another factor that was found to play a role in the utilisation of ICT facilities in teaching is the teachers' academic qualifications. In a study conducted by Agbatogun (2013), it was found that academic qualification is an influential factor that predict the use of ICT in teaching. Similarly, Olafare et al. (2018) also found that lecturers with first degree had a positive attitude towards the use of ICT than those with higher qualification. Similarly, years of teaching experience has also been found to be an influential factor in determining the use of ICT facilities by college lecturers. Study conducted by Egbert et al. (2022) showed that lecturers with longer years of working experience utilise ICT facilities most. Also, Olafare, et al. (2018) in their study found a significant difference between the less experienced and the experienced lecturers. However, it was discovered that the less experienced lecturers were more proficient in utilising ICT for academic purposes. Etim (2019) found that the less the years of experience, the higher the knowledge and use of ICT by teachers. This has been attributed to the enthusiasm and openness of the youths towards technology (Etim, 2019).

Studies concerning the level of utilisation of ICT in teaching is inconclusive and varied from one college to the other. Thus, this study is carried out to investigate lecturers' awareness, readiness and attitude towards the utilisation of ICT for instructional delivery in Nigeria Colleges of Education.

Theoretical Framework

This study was informed by the Technology Acceptance Model (TAM). This theoretical model was formulated by Davis (1989) in order to address thoughtfulness affecting the acceptance and use of computer technology or ICT facilities in organisations. According to this model, attitude towards ICTs influences the intention to use or not use ICT facilities through the mediating factors of perceived usefulness and perceived ease of use. The two variables, 'perceived usefulness' and 'perceived ease of use', predict acceptance of the use of technology by different people in an organisation. The TAM suggests that when lecturers are presented with new technology, two major factors influence their decisions regarding how and when the ICT tools are used. These include perceived usefulness, and ease of use.

Other factors, such as personal control, economic factors, and external influences from suppliers, customers, and competitors were not considered by the TAM model (Enakrire, 2020). These new ideas suggest many possibilities, which concern organisations, to create environments that would support or enhance lecturers' use of technology to improve their operations. As lecturers continue to learn and work with other colleagues, they improve their knowledge-basis and skills through interactions within the environment, thus becoming more receptive to different learning methods. Lecturers act based on this new knowledge that helps transform the pre-existing experiences and skills that they possess.

Methodology

Research Design

The research design used in this study was a descriptive survey. The goal of a descriptive research design is to methodically gather data in order to characterise a situation or phenomena (Creswell, 2014). The design was deemed fit for this study because it gave room for assessing level of lecturers' awareness of ICT utilisation for teaching health education among the sampled population.

Research Participants and Sampling

All college lecturers from Southwestern Nigerian colleges of education made up the study's population. The sample size was five hundred and fifteen (515) respondents, comprising two hundred and ninety-five (295) male lecturers and two hundred and twenty (220) female lecturers. The observed inequality between male and female lecturers' respondents could be attributed to the gender imbalance in the academia in Nigeria as reported by Igiebor (2021). However, Creswell (2014) asserted that a sample size of 30–500 respondents is adequate to enhance generalisability of a study findings. The respondents for this study were chosen through a multistage sampling technique.

Instruments and Measures

A structured, standardised questionnaire was utilised to gather data in accordance with the study's objectives. The Information and Communication Technology Competencies for Teachers Questionnaire (QICTT) was modified for the use. The questionnaire was divided into five sections specifically for lecturers, and each component asked questions about relevant variables. In Section A, demographic data such as age, gender, marital status, and sexual orientation of the research participants were collected. Section B was used to assess the Information and Communication Technology (ICT) profile of the lecturers by recording the number of ICT seminars they had attended. Section C was used to assess lecturers' knowledge of ICT using a scale of 1 to 4 with 1 as the lowest and 4 as the highest rating points to each item based on the lecturers' understanding and experience on the use of ICT. Section D itemised various ICT facilities and ask lecturers to indicate their accessibility to ICT devices. Lastly, section E examined lecturers' utilisation of ICT devices.

Procedure

The data for this study was collected through primary source with the use of structured questionnaires. Since the respondents were lecturers, the questionnaire was self-administered with the help of two research assistants. Prospective participants who voluntarily agreed to participate in the study were given access to a comprehensive informed consent form that included a complete list of ethical standards.

Ethical Consideration

All ethical protocols were observed before conducting this research. A letter of ethical approval was obtained from the Ethic Committee of the authors' University, and this granted the access to the lecturers at the colleges of education. A comprehensive explanation of the study's goals so that the participants may feel confident and certain that their answers would only be utilised for research was provided. The respondents were informed that they might refuse to answer any question about which they had doubts, and that they could stop participating in the study at any time without facing any repercussions. The informed consent in written form was obtained from respondents who participated

in this study. The informed consent letter addressed topics including voluntary participation, research site, study purpose, and confidentiality.

Data Analysis

After finishing the questionnaire, copies were collected and cross-checked to ensure their accuracy and completeness. After the questionnaires were correctly completed, the data was scored and then imported into SPSS version 20.0 for analysis. The demographic characteristics of the respondents were analysed using descriptive statistics like percentage scores and frequency counts while inferential statistics like chi-square were used to analyse the data collected at the 0.05 level of significance. The analysis was presented in tabular form for ease of understanding.

Results

The analysis of the data and interpretation of the result is covered in this part. The first section provided answers to the research questions. The second section revealed the results of the tested research hypothesis in the present study.

Research Question 1

Do lecturers have adequate knowledge of ICT for teaching health education courses in Southwestern Nigeria?

Table 1

Lecturers' Knowledge of ICT for Teaching Health Education in Southwestern Nigeria

S/N	Knowledge of ICT	Beginning	Developing	Experienced	Expert	Mean	SD
1	I can recognise and describe the primary parts of the computer, such as the monitor, system unit, keyboard, and mouse.	4(6.7%)	24(40.0%)	16(26.7%)	16(26.7%)	2.7333	.93643
2	I can recognise and describe the uses for computer peripherals, such as digital cameras, printers, scanners, modems, and speakers.		32(53.3%)	12(20.0%)	16(26.7%)	2.733	.86095
3	I know how to set up peripherals, install drivers when needed, and connect essential components correctly.		22(36.7%)	22(36.7%)	16(26.7%)	2.9000	.79618
4	I can set up different computer hardware and software configurations.	18(30.0%)	4(6.7%)	22(36.7%)	16(26.7%)	2.6000	1.1818
5	I am aware of the fundamental features of the operating system.	28(46.7%)	8(13.3%)	18(30.0%)	6(10.0%)	2.0333	1.0887

6	I can manage and organise computer files, directories, and folders.	4((6.7%)	14(23.3%)	24(40.0%)	18(4.0%)	2.9333	.8995
7	I can save and share computer files using storage devices (hard drives, diskettes, CDs, flash memory, etc.). Make backups of critical files.	24(40.0%)	18(30.0%)	10(16.7%)	8(13.3%)	2.3667	.9719
8	I can shield the computer against malware, spyware, viruses, hackers, and more.	26(43.3%)	16(26.7%)	14(23.3%)	4(6.7%)	3.0667	.9719
9	I have access to both offline and online support resources for maintenance, troubleshooting, and software updates.	26(43.3%)	12(20.0%)	18(30.0%)	4(6.7%)	3.0000	1.0084

As shown in table one above, 4(6.7%) of the respondents were beginners who can identify and define the function of the main components (Monitor, system unit, keyboard, mouse) of the computer, 24(40.0%) of the respondents were at the developing stage in the knowledge of ICT, 16(26.7%) of the respondents were experienced in the knowledge of ICT, 16(26.7%) were expert in the knowledge of ICT in the teaching of health education courses with a mean of 2.7333 and a SD of .93643. Also from the table, 32(53.3%) of the respondents were developing in their knowledge of ICT and can identify and define the functions of computer peripherals (Printer, scanner, modem, digital camera, speaker, etc.), 12(20.0%) of the respondents were experienced while 16(26.7%) of the respondents were expert with a mean score of 2.7333 and a SD of .86095.

As shown in the table, 22(36.7%) of the respondents were developing and could properly connect main components, configure peripherals, and install drivers when required, 22(36.7%) of the respondents were experienced in this aspect, 16(26.7%) of the respondents were experts with a mean score of 2.9000 and a SD of .79618. Also from the table, 18(30.0%) of the respondents were beginners who can configure computer setting of various software and hardware, 4(6.7%) of the respondents were developing, 22(36.7%) of the respondents were experienced while 16(26.7%) of the respondents were expert with a mean score of 2.6000 and SD of 1.18178.

Also from the table, 18(30.0%) of the respondents were beginners when it comes to configuring computer setting of various software and hardware, 4(6.7%) of the respondents were developing, 22(36.7%) of the respondents were experienced while 16(26.7%) of the respondents were expert with a mean score of 2.6000 and SD of 1.18178. From the table, 28(46.7%) of the respondents were beginners and could understand the basic functions of the operating system, 8(13.3%) of the respondents were developing, 18(30.0%) of the respondents were experienced while 6(10.0%) of the respondents were experts with a mean score of 2.0333 and SD of 1.08872.

Also from the table, 4 (6.7%) of the respondents were beginners and could understand the basic functions of the operating system, 14 (23.3%) of the respondents were developing, 24(40.0%) of the respondents were experienced while 18 (30.0%) of the respondents were experts with a mean score of

2.9333 and SD .89947. From the table, 24(40.0%) of the respondents were beginners, can use storage devices (i.e. hard disk, diskette, CD, flash memory, etc.) for storing and sharing computer files, and could create back-ups for files. 18(30.0%) were developing, 10(16.7%) of the respondents were experienced while 8(13.3%) of the respondents were expert with a mean score of 2.3667 and SD of 1.05713.

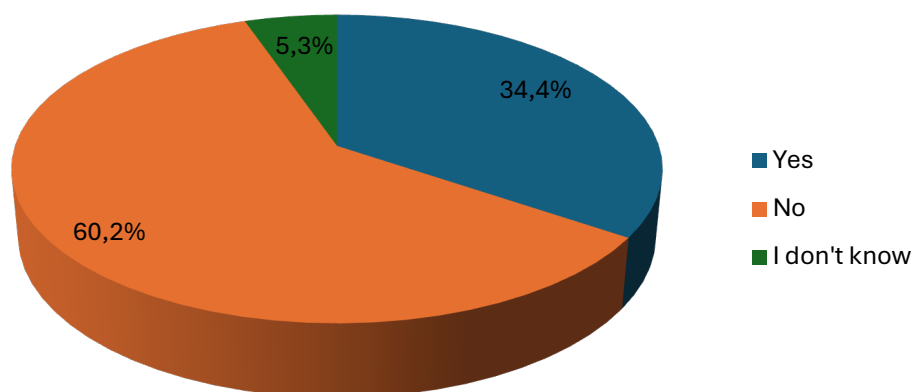
Also, from the table, 26(43.3%) of the respondents were beginners and can use storage devices (i.e. hard disk, diskette, CD, flash memory, etc.) for storing and sharing computer files. Create back-ups and important files, 16(26.7%) of the respondents were developing, 14(23.3%) of the respondents were experienced while 4(6.7%) of the respondents were expert with a mean score of 3.0667 and SD of .9719. Also from the table, 26(43.3%) of the respondents were beginners and can use online and offline help facilities for troubleshooting, maintenance, and update of applications, 12(20.0%) of the respondents were developing, 18(30.0%) of the respondents were experienced while 4(6.7%) of the respondents were expert with a mean score of 3.0000 and SD of 1.0084.

Research Question 2

Do lecturers utilize ICT resources for teaching health education courses in Southwestern Nigeria?

Figure 1

Bar Chart Showing Utilisation of ICT Resources by Lecturers for Teaching Health Education in Southwestern Nigeria



The data from the chart shows that 155 respondents (34.4%) use ICT resources for teaching physical and health education courses, while 271 respondents (60.2%) do not use ICT for teaching these courses. Additionally, 24 respondents (5.3%) were unsure or indifferent about utilizing ICT for teaching health education courses. This shows that majority of the respondents do not utilise ICT resources for teaching health education.

Hypotheses Testing

This section presents the result of the tested hypothesis.

Hypothesis 1: There is no significant difference between lecturer's knowledge of ICT and utilisation of ICT in teaching Physical and health education in Southwestern Nigeria.

Table 2

Table Showing Difference Between Lecturer's Knowledge of ICT and Utilisation of ICT in Teaching Health Education in Southwestern Nigeria

	Test Value = 0.05					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
KNOWLEDGE of ICT	76.359	59	.000	21.00000	20.4595	21.5405
UTILISATION of ICT	72.607	59	.000	11.51556	11.2039	11.8272

The table above showed that there was a difference in lecturer's knowledge of ICT and utilisation of ICT in teaching Health Education in Southwestern Nigeria ($t=76.359$, $df=59$, $p<0.05$). The table revealed that lecturer's knowledge of ICT had a greater mean of 21.0000 while utilisation had a mean of 11.51556, indicating a mean difference of 9.4844. This means that ICT knowledge of lecturers is better when compared to utilisation of ICT for teaching Health education in Southwestern Nigeria. Therefore, the hypothesis was rejected.

Discussion

This study investigated lecturers' level of awareness and ICT utilisation for teaching Health Education in Nigeria Colleges. Findings of this study showed that ICT knowledge of lecturers was relatively high although the accessibility to ICT facilities for teaching Health Education remains low. This outcome is consistent with existing literature, which suggests that while educators are knowledgeable about ICT resources and how to utilize them, the availability and accessibility of these resources are often limited (Ohiwerei & Onimawo, 2017). For example, Asubiojo and Lawrence's (2019) report confirmed that professors in Nigeria's higher education institutions are not making enough use of ICT resources. In addition, this finding confirmed the findings of recent research conducted Obielodan et al. (2020). Authors studied the level of ICT utilisation among lecturers in Nigeria colleges. Their findings indicated low pedagogical knowledge of ICT tools among lecturers in Nigeria.

The findings of this study also revealed that ICT knowledge of lecturers is better when compared to utilisation of ICT for teaching Health education in Southwestern Nigeria. One potential explanation for this difference may be the various challenges that developing countries encounter when incorporating ICT into their systems. These challenges result in higher opportunity costs for developing nations, as they must navigate obstacles that are not as prevalent in more developed countries when implementing large-scale ICT initiatives within their institutions. Aishah and Zeema (2017) affirmed that the primary obstacles to the effective use of ICT in the Nigerian educational system are the high cost of purchasing, setting up, running, maintaining, and replacing ICT systems; ongoing expenses for professional development; connectivity, which includes phone time and Internet access; and maintenance and support, which includes supplies and utilities (Wand of Knowledge Team, 2021).

Limitation of the Study

While conducting this research, we encountered some constraining factors that could limit the generalisation of the findings. First, the study data relied on questionnaire which is a self-report instrument, capable of generating subjective response. Thus, findings of this study may be further verified using interviews, open-ended questions and focused group discussions. Also, the research

sample consisted of Health Education lecturers; therefore, the findings may not apply to lecturers of other courses within the higher institution in Nigeria. Second, a multistage sampling was used, and the data was gathered using a cross-sectional survey; therefore, the results may not be applicable to a randomised experiment, and the use of data from longitudinal, observation, and interview studies would enrich the study. Third, the sample size was relatively small, and the respondents were drawn mostly from colleges of education within the southern part of Nigeria; consequently, generalising to the entire country should be done carefully. Therefore, future studies are advised to replicate the research and utilise a larger sample size. Fourth, the social desirability bias may have applied in this instance, since a self-completed questionnaire was used to collect the responses from the participants. Although, the questionnaire was pilot tested to further increase reliability.

Nevertheless, this study adds to the existing body of literature by providing insight on lecturers' level of awareness of ICT and ICT utilisation for teaching health education in Nigeria. This may enable practitioners and higher education administrators to have better insight into what it takes to facilitate ICT uptake, to make informed decisions and to establish strategic goals in line with improving the use of ICT for teaching and learning purposes.

Conclusion and Recommendations

The focus of this research was to investigate lecturers' level of awareness of ICT and ICT utilisation for teaching health education in Nigeria. The findings of this study can provide information for designing feasible interventions that are responsive to the current realities of the status of lecturer's knowledge of ICT for teaching in Nigeria tertiary institutions. The first part of this study dealt with the conceptualisation of lecturers' ICT knowledge and awareness. Technology Acceptance Model (TAM) was discussed as a theoretical framework that underpinned the study. The discussion highlighted the importance of incorporating ICT facilities in teaching, as studies have shown that its integration is crucial for enhancing the teaching and learning process in modern education. Therefore, promoting the use of ICT among lecturers in tertiary institutions can greatly improve overall teaching effectiveness.

Firstly, the study confirmed that college lecturers in Southwestern Nigeria had relatively knowledge of ICT. Notwithstanding, they hardly utilised ICT resources for teaching Health Education courses in Southwestern Nigeria. Going by the findings of this study, it is important to place emphasis on attitudinal change of lecturers towards the use of information and communication technology. This is because attitudes towards the use of ICT appears to be a major factor that determines whether a potential user would utilise ICT or not. Therefore, there is a need for training and re training of college lecturers on attitudinal change towards the use of ICT.

It is also important that college management should re orientate lecturers and students on the benefit of incorporating the use of ICT in teaching and learning process. It has become imperative for government to equip colleges and universities with adequate ICT facilities that will improve ICT adequate access and utilisation. In order to achieve this goal, it is important to enhance access and opportunities for lecturers to incorporate ICT in their teaching and learning practices. Therefore, governments at all levels must ensure that ICT tools are both affordable and readily available for lecturers to utilise in the education process. Furthermore, conducting workshops and seminars to educate lecturers on the results of this study will further enhance their understanding and utilization of ICT resources.

Suggestion for Further Study

This study focused on lecturers' level of awareness of ICT and ICT utilisation for teaching health education in Nigeria. Other studies should focus on factors affecting the readiness to adopt ICT among lecturers at other schools in colleges of education. Also, future research should expand the scope of this study by increasing the sample size as well as the geographical coverage of the study. A replicate of this study can be conducted in other departments in the Colleges of Education and Universities and among teachers in secondary schools in Nigeria.

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Conflict of Interest

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