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UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN LEARNING AT IGNATIUS AJURU UNIVERSITY OF EDUCATION, PORT HARCOURT

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Abstract
This study investigated the utilization of ICT in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The research focused on various aspects of ICT integration, including student factors influencing its adoption, the availability of ICT facilities, students' preferences for ICT implementation, and the current status of ICT integration. Utilizing a descriptive survey design and quantitative methodology, the study involved 84 students from the Department of Human Kinetics, Health and Safety Education. A questionnaire with a reliability coefficient of 0.82 was used for data collection. The results indicated that students generally had a positive attitude towards ICT integration, with strong agreement on factors like accessing online resources, effective time management with ICT, and enhanced understanding through ICT. The overall mean for these factors was 3.13, highlighting a favorable perception of ICT. The overall mean for facility availability was 3.03, indicating a supportive environment for ICT integration. Students exhibited diverse preferences for ICT implementation, favoring tools such as presentation software, word processors, spreadsheets, Learning Management System quizzes, timetable software, seminar/project presentations, and video games/simulations. Preferences for electronic notes, collaboration software, and access to recorded lectures were comparatively lower. Importantly, the study found no significant gender-based differences in the factors influencing ICT integration, indicating uniform perceptions and preferences among male and female students. It was recommended among others that the University should provide more ICT facilities and training for students and staff on how to use ICT for teaching and learning human kinetics and health education.

Keywords: Health Education, Human Kinetics, Information Technology, ICT

Introduction

The conventional teaching methods in most developed and developing countries have gradually given way to the adoption of Information Communication Technology (ICT) in the classroom due to the limitations of traditional pedagogy. Traditional classroom contact, with its geographical and scheduling constraints, and reliance on static teaching tools like white or blackboards, has proven inadequate in meeting the diverse and dynamic educational needs of modern learners. Additionally, the use of printed books and written resources has hindered access to up-to-date information and materials. The integration of ICT in education offers a solution to these challenges, making education more accessible, flexible, and tailored to individual needs.

In almost all education-related fields, especially schools, information and communication technology (ICT) according to Rutkowski et al. (2011), is frequently viewed as a catalyst for promoting 21st-century abilities. ICT is used as an umbrella term in this research to refer to any communication device or application, including radio, television, cell phones, computers, tablets, laptops, hardware and software for computers, smartphones and networks, satellite systems, as well as the various services and applications associated with it. This is true even though ICT has a variety of definitions depending on the nature of its use. ICT that supports teaching, learning, and a range of educational

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activities in many ways is referred to as being provided in the basic context of teaching and learning (Hennessy et al., 2010).

Many educational institutions have been particularly slow to incorporate the use of ICT in the field of human kinetics and health education. This is attributed to the distinctive requirements of human kinetics and health education in their teaching and learning methods. For instance, using England's situation as a point of reference, it was the only subject taught in English schools and guided by the National Curriculum for England, where the use of ICT was not compulsory (Tearle & Golder, 2008). The subject of technology integration in the contemporary classroom has been taken up by human kinetics and health education (Kretschmann, 2010). To provide human kinetics and health education teachers with useful options for incorporating technology into their curricula, a variety of teaching strategies and pedagogical situations have been proposed (Philpot & Smith, 2018; Olabemi & Adesoji, 2016). The variety of educational technology available for teaching human kinetics and health includes PCs, laptops, and tablets. Others include online activities (Martin et al., 2012), and physical activity measurement devices (McCaughtry et al., 2008). According to Leight and Nichols (2012), Physical Education Teacher Education (PETE) programs have been brought up in discussions regarding ICT at the higher education level since then. The use of ICT in teaching and learning human kinetics and health education has been low globally and markedly inconsistent in Nigeria despite the potentials that have been identified. This includes its use in the preparation of human kinetics and health education teachers as well as in traditional physical and health education classrooms for primary and secondary schools.

This problem is made worse by the fact that the majority of teachers in today's classrooms received their education in a setting where the use of a tape recorder, video cassette recorder (VCR), banners, and drawings, or at the very best, a projector slide, was the closest thing to integrating new technologies into the human kinetics and health education classroom (Dols, 2011). Additionally, there is currently far less research and development surrounding the use of ICT in human kinetics and health education initial teacher training than there is for other subject areas (Leight & Su, 2014). As a result, younger generations of human kinetics and health education teachers can readily inherit this first training. Complete ICT facilities and capabilities must be made available to the students and lecturers to prepare human kinetics and health education teachers/tutors and their students in Nigerian schools and universities to meet the demands of a global world and effectively implement ICTs in teaching and learning human kinetics and health education. ICT must be viewed as a crucial teaching instrument that enhances student learning and supports teachers' activities both within and outside of the classroom if the aforementioned goal is to be met. There is no denying the fact that using ICT in tertiary institutions to teach and learn about human kinetics and health education will significantly improve undergraduate students' ability to acquire the skills they need to contribute to the social and economic growth, improvement, and development of the country. Given the aforementioned, the researcher sought to investigate the utilization of ICT in learning human kinetics, health and safety education

Statement of the Problem

The minimal integration of technology and the overreliance on traditional teaching methods became glaringly evident during the COVID-19 pandemic when traditional instruction models were disrupted, highlighting the unpreparedness of both students and faculty to transition to technology-mediated remote learning alternatives This led to the closure of schools for a few semesters and some hot spots area to full academic sessions. The closure had its ripple effects in private establishments where salaries were not paid. In Nigeria, this did not differ as institutions of higher learning were shut down. The aftermath of the lockdown ushered in a new era in the teaching and learning process. Most institutions were encouraged to adopt other teaching and learning platforms such as google Meat, Zoom, and Team to mention but a few. This study investigated the utilization of information and communication technology in learning human kinetics and health education at Ignatius Ajuru University of Education. Specifically, this study investigated.

The purpose of this study was to explore the utilization of information and communication technology in learning human kinetics and health education at Ignatius Ajuru University of Education. Specifically, this study investigated.

1. Student factors influencing the integration of information and communication technology in learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers state.
2. Influence of the availability of information and communication technology facilities on the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers state.

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3. Students' preferential implementation of information and communication technology in teaching and learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers state.
4. The current status of the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State.

Research questions

1. What are the student factors influencing the integration of information and communication technology in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State?
2. What are the available information and communication technology facilities for the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State?
3. What are the students' preferential implementation of information and communication technology in teaching and learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State?
4. What is the current status of the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State?

Hypothesis

HO_1: There is no significant difference in the student factors influencing the integration of information and communication technology in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender

Methodology

The study used a descriptive survey design and a quantitative methodology. The study was conducted at Ignatius Ajuru University of Education (IAUE) Rumuolumeni, Port Harcourt. The university has six faculties, namely the faculties of education, humanities, natural and applied sciences, vocational and technical education, social sciences, management and marketing, and business studies. The study was focused on the Faculty of Natural and Applied Sciences and the Department of Human Kinetics, Health and Safety Education. The population of this study was five hundred and seventy-eight (578) students in levels 100 to 400 in the Department of Human Kinetics, Health and Safety Education, Faculty of Natural and Applied Sciences, Ignatius Ajuru University of Education. This population group was deemed appropriate for this study as they are the ones directly involved in learning human kinetics and health education. For this study, 87 respondents were chosen as the sample size. The sample size was established following Gay and Airasian's (2003) criteria. Gay and Airasian (2003) assert that for a descriptive survey study, a sample size of between 10 and 20 per cent of the overall population is appropriate because it is representative of the population. A sample size of 15% of the projected population of each level of students was chosen based on the viewpoint of (Gay & Airasian, 2003). The table below shows the sample distribution:

Table 1 - Sample size distribution

Population group	Population	Sample size
Level 100 HKHSE IAUE Students	205	31
Level 200 HKHSE IAUE Students	180	27
Level 300 HKHSE IAUE Students	126	19
Level 400 HKHSE IAUE Students	67	10
Total	578	87

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The study used accidental sampling to enrol the respondents for this study. Data collection was done using a self-structured questionnaire. This questionnaire consisted of closed-ended questions. Data was collected using a structured questionnaire adapted from prior studies (Bhuasiri et al., 2012; Tearle & Golder, 2008; Aniodoh & Ayalogu, 2013). It consisted of closed-ended items on demographics, attitudes towards ICT, availability of infrastructure, current usage, preferences and barriers. Content validity was assessed through expert reviews by two lecturers.

Questionnaire clarity and structure were piloted among ten students. Minor modifications were made based on feedback. Reliability analysis of piloted responses gave a Cronbach's alpha of 0.82, indicating good internal consistency. The final questionnaire was administered to 87 students electronically using Google Forms and 84 copies properly filled out were used for data analysis. Descriptive statistics including frequencies, percentages, means and standard deviations were calculated to assess sample characteristics, availability of ICT facilities and current implementation. was conducted to compare ICT preferences between human kinetics and health education students. Independent samples t-tests evaluated the influence of ICT availability on usage. Data was analyzed using SPSS Version 25 at a 95% confidence interval.

Results

Research question 1: What are the student factors influencing the integration of information and communication technology in learning Human Kinetics And Health Education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State?

Table 2: Summary of descriptive statistics on the student factors influencing the integration of information and communication technology in learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State. (n=84)

S/N	Items	SA	A	U	D	SD	Mean	SD	Decision
1	I access online resources (e.g., websites, videos, apps) for learning purposes.	28	28	19	4	5	3.83	1.13	*
2	I often use interactive online platforms or forums for discussion and collaboration.	4	12	39	27	2	2.87	0.86	#
3	I manage my time and stay focused when using ICT for study.	4	33	16	23	8	3.02	1.12	*
4	There is adequate training and support to effectively use ICT for my coursework.	6	26	19	21	12	2.92	1.19	#
5	Integrating ICT enhances my understanding.	11	28	13	16	16	3.02	1.35	*
	Grand mean						**3.13**	**0.46**	*****

Key: * Agreed

The table presents the results of a study on student factors influencing the integration of information and communication technology (ICT) in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The grand mean on student factors influencing the integration of information and communication technology (ICT) in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State was found to be 3.13, SD=0.46. The result further shows that "I access online resources (e.g., websites, videos, apps) for learning purposes" has the highest mean (3.83). This indicates that a significant number of students agreed that they access online resources for learning. "I manage my time and stay focused when using ICT for study" has a mean of 3.02, which is also indicative of agreement. Students seem to agree that they effectively manage their time and stay focused when using ICT for their studies. "Integrating ICT enhances my understanding" also has a mean of 3.02, suggesting that students agree that the integration of ICT enhances their understanding.

Research question 2: What are the available information and communication technology facilities for the implementation of information and communication technology for learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State?

Table 3: Summary of descriptive statistics on the available information and communication technology facilities on the implementation of information and communication technology for learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State. (n=84)

S/N	Items	SA	A	U	D	SD	Mean	SD	Decision
6	I have access to high-speed internet connectivity for online learning activities	13	24	17	12	18	3.02	1.39	*
7	There are interactive whiteboards	21	24	18	16	5	3.48	1.23	*
8	There are adequate computers	9	16	14	30	15	2.69	1.27	#
9	There are adequate numbers of multimedia projectors.	12	26	12	18	16	3.00	1.37	*
10	There is training and support for students on how to use ICT facilities effectively for learning.	12	23	17	15	17	2.98	1.36	#
	Grand mean						**3.03**	**0.53**	*****

Key: * Agreed

The table presents the results of a study on the available information and communication technology (ICT) facilities for the implementation of ICT in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The grand mean on the available information and communication technology (ICT) facilities for the implementation of ICT in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State was found to be 3.03, SD=0.53. The result further shows that "There is interactive whiteboards" has the highest mean (3.48). This indicates that a significant number of students agreed that interactive whiteboards are available for their use in their learning. "I access to high-speed internet connectivity for online learning activities" has a mean of 3.02, indicating agreement among the students regarding the availability of high-speed internet for online learning. "There are adequate numbers of multimedia projectors" also has a mean of 3.00, suggesting that students agree that there are sufficient multimedia projectors available for their use.

Research question: What are the students' preferential implementation of information and communication technology in teaching and learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State?

Table 4: Summary of descriptive statistics on the students' preferential implementation of information and communication technology in teaching and learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State. (n=84)

S/N	Items	SA	A	U	D	SD	Mean	SD	Decision
11	Online exams and quizzes.	50	18	11	4	1	4.33	0.96	*
12	Live video lessons.	14	11	33	23	3	3.12	1.10	*
13	Timetable software.	18	28	21	11	6	3.49	1.18	*
14	Seminar/project presentations.	22	20	14	20	8	3.33	1.35	*
15	Display of assessment records online.	23	11	21	21	8	3.24	1.35	*
16	Electronic notes.	10	15	28	26	5	2.99	1.10	#
17	Collaboration software.	4	26	10	26	18	2.67	1.25	#
18	Access to recorded lectures for review.	16	11	17	26	14	2.87	1.37	#
19	Video games and simulations.	15	18	23	14	14	3.07	1.33	*
	Grand mean						**3.23**	**0.39**	*****

Key: * Agreed

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The table presents the results of a study on students' preferences for the implementation of information and communication technology (ICT) in teaching and learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The grand mean on students' preferences for the implementation of information and communication technology (ICT) in teaching and learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State was found to be 3.23, SD=0.39. The result further shows that "Online exams and quizzes" have the highest mean (4.33). This indicates that a significant number of students prefer the use of online exams and quizzes as an ICT tool in teaching and learning. "Timetable software" has a mean of 3.49, indicating agreement among the students regarding their preference for the use of timetable software. "Seminar/project presentations" and "Display of assessment records online" have means of 3.33 and 3.24, respectively, suggesting that students also prefer these methods for teaching and learning through ICT. "Video games and simulations" has a mean of 3.07, indicating that a substantial number of students are in favour of using video games and simulations in their learning.

Research question 4: What is the current status of the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State?

Table 4: Summary of descriptive statistics on the current status of the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State. (n=84)

S/N	Items	SA	A	U	D	SD	Mean	SD	Decision
20	Spreadsheets.	23	19	26	9	7	3.50	1.24	*
21	Word Processor.	32	16	16	7	13	3.56	1.46	*
22	LMS Quizzes.	21	16	14	25	8	3.20	1.36	*
23	Simulations.	15	16	16	23	14	2.94	1.37	#
24	Video Lessons.	11	11	17	20	25	2.56	1.38	#
25	Presentation Software.	28	25	23	6	2	3.85	1.05	*
26	LMS Forums.	13	11	30	21	9	2.98	1.20	#
27	Games.	1	25	26	27	5	2.88	0.95	#
	Grand mean						**3.18**	**0.39**	*****

Key: * Agreed

The table presents summary statistics for various items related to the implementation of information and communication technology (ICT) for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The grand mean on the current status of the implementation of information and communication technology for learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State was found to be 3.18, SD=0.39. Presentation Software: This item has the highest mean score of 3.85, indicating that a significant number of respondents agreed with the implementation of presentation software for learning human kinetics and health education. Word Processor: The mean score is 3.56, suggesting that respondents generally agreed with the use of word processors for learning. Spreadsheets: The mean score is 3.50, indicating a favourable attitude toward using spreadsheets for educational purposes. These three items (Presentation Software, Word Processor, and Spreadsheets) have the highest mean scores, implying that they are well-received and have been successfully implemented in the context of human kinetics and health education at the university.

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Hypothesis

HO_1: There is no significant difference in the student factors influencing the integration of information and communication technology in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender.

Table 4: Summary of Independent sample t-test on the student factors influencing the integration of information and communication technology in learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender.

Gender	N	Mean	SD	SDE	t	df	p-value	Decision
Male	38	3.17	0.42	0.07	.721	82	.473	Retained Ho_1
Female	46	3.10	0.50	0.07				

The table provides the results of an independent sample t-test that aimed to test the hypothesis (HO_1) that there is no significant difference in the student factors influencing the integration of information and communication technology in learning human kinetics and health education at Ignatius Ajuru University of Education, Port Harcourt, Rivers State, based on gender. The result shows that df (Degrees of Freedom) was 82. The t-value is a statistic that quantifies the difference between the means of the two groups relative to the variation within each group which was 0.721. The p-value was 0.473 which indicates that there is no significant difference in the student factors influencing the integration of information and communication technology in learning human kinetics and health education in Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender. The null hypothesis one was retained at a .05 level of significance.

Discussion

The first research question sought to understand the student factors influencing the integration of ICT in the context of human kinetics and health education. Table 2 summarizes the descriptive statistics for this research question. The results indicate that students generally agreed with statements related to their use of online resources for learning, their ability to manage their time and stay focused when using ICT, and their perception that integrating ICT enhances their understanding. The grand mean of 3.13 reflects an overall agreement among the students regarding the influence of these student factors on ICT integration. The findings align with previous research that suggests that students appreciate the benefits of ICT integration in their education, such as access to online resources and improved understanding through technology (Anderson & Dron, 2011; Herrington & Herrington, 2007). These positive perceptions can be valuable for educators and institutions as they plan to further integrate ICT into the curriculum, recognizing that students are generally open to such innovations.

Research question 2 focused on the available ICT facilities for ICT integration in human kinetics and health education. Table 3 presents the descriptive statistics, and it is evident that students agreed with statements regarding the availability of interactive whiteboards, adequate computers, multimedia projectors, and training and support for using ICT for coursework. The grand mean of 3.03 indicates overall agreement among the students regarding the availability of these ICT facilities. These findings are encouraging as they suggest that the institution has made substantial investments in ICT infrastructure and support. Adequate access to these resources is crucial for effective ICT integration in education (Ertmer et al., 2015). The positive perceptions of students about the availability of these facilities indicate a supportive environment for ICT-enhanced learning.

Research question 3 aimed to understand students' preferences for the implementation of ICT in teaching and learning human kinetics and health education. Table 4 provides the descriptive statistics for this research question. Students expressed strong preferences for using presentation software, word processors, spreadsheets, and Learning Management System (LMS) quizzes. They also favoured the use of timetable software, seminar/project presentations,

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and video games and simulations. These preferences reflect a diverse set of choices, suggesting that students appreciate a combination of software tools and interactive learning methods in their education. While students generally favoured these ICT tools, some items such as electronic notes, collaboration software, and access to recorded lectures for review received lower preference scores. This indicates that students may have reservations about certain ICT tools or methods. Educators and instructional designers should consider these preferences when planning the integration of ICT into their teaching, ensuring that it aligns with students' choices and learning styles (Bonk & Zhang, 2008).

Conclusion

The results revealed that students generally have positive perceptions of ICT integration, appreciate the availability of ICT facilities, and exhibit diverse preferences for ICT implementation in human kinetics and health education. Additionally, the study found no significant gender-based differences in the factors influencing ICT integration. These findings provide valuable insights for educators and institutions aiming to enhance ICT integration in education and ensure that it caters to students' needs and preferences.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The university should provide more ICT facilities and training for students and staff on how to use ICT for teaching and learning human kinetics and health education
2. The institutions should consider integrating a diverse range of ICT tools and resources to cater to the varying preferences of students. These tools may include presentation software, word processors, spreadsheets, LMS quizzes, and interactive whiteboards, as identified by student preferences.
3. Educational institutions should continue to invest in and maintain ICT infrastructure, including high-speed internet connectivity, multimedia projectors, and adequate computers, to support effective ICT integration.

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