PERCEPTION OF STUDENTS AND LECTURERS ON THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN THE TEACHING AND LEANING OF ECONOMICS IN NIGER STATE COLLEGE OF EDUCATION, MINNA.

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Abstract
This paper examined Perception of Students and Lecturers on the Role of ICT in the Teaching and Leaning of Economics in College of Education, Minna: A Roadmap for Sustainable Development. A cross-sectional survey design was adopted. This study was guided byone research question with corresponding objective and hypothesis. The instrument for data collection was a researcher-developed questionnaire titled "Students' Perception of the Role of ICT in Teaching and Learning Economics Questionnaire (SPRTLEQ)." A simple random technique was employed to select 354 samples from the targeted population of 733. The instruments underwent content and criterion validity checks by two experts from the Economics and English Departments at the College of Education, Minna. Their suggestions were used in selecting the items. The test-retest method was used, and the reliability index of the instrument was 0.76, calculated using Cronbach's alpha. The collected data were analysed using the Pearson Correlation Coefficient approach for the null hypothesis at a 0.75 level of significance. The findings signify that the use of ICT enhances students' academic performance in teaching and learning of economics. Based on the findings, recommendations include incorporating ICT into tertiary education syllabi by curriculum designers to prepare students for the digital age.
Keywords: Students, Lecturers, Information and Communication Technology (ICT), teaching and Learning.

Introduction

The concept of Information and Communication Technology (ICT) encompasses a broad range of technologies, including hardware, software, networks, and media, all aimed at storing, retrieving, manipulating, transmitting, and receiving information in digital form (World Bank, 2002). According to UNESCO, ICT is defined as a discipline that utilizes scientific and management techniques in information handling, employing various technologies for efficient information processing, communication, and task performance (Ratheeswari, 2018; Pedagoo, 2020). The integration of ICT in education has brought about transformative changes, offering benefits such as enhanced engagement, access to educational resources, collaborative learning experiences, personalized learning platforms, streamlined assessments, and preparation for the digital workforce (Johnson et al., 2016; Anderson & Ronnkvist, 2019; Westera et al., 2018; Gulbahar and Madran, 2009; Voogt et al., 2013).

The ICT revolution in education has led to explicit changes in instructional methods and research, accelerating and extending educational reforms (Davis & Tearle,1999). The influence of ICT on teaching and learning is profound, motivating and engaging learners, supporting schools in understanding financial and operational practices, and preparing students for the increasingly technology-reliant real world (Ashley, 2016; Smith and Anderson, 2021). The types of ICTs used in education range from traditional tools like radio and television to modern approaches such as e-learning and blended learning, combining traditional methods with online resources (Hughes, 2005; Ismail, 2015; Bello et al., 2017). The impact of ICTs on student learning and academic achievements is significant, with potential benefits ranging from a shift towards student-cantered approaches to improved achievement in specific subjects like economics through methods like Computer-Aided Instruction (CAI) and integrative computer-

assisted learning (Mukama and Anderson, 2008; Hockly, 2013). The successful incorporation of ICT tools in education requires thoughtful alignment with pedagogical strategies to enhance learning outcomes, emphasizing active student participation and knowledge construction (Bates, 2015; Voogt et al., 2013).

The integration of Information and Communication Technology (ICT) in education offers numerous benefits, enhancing students' cognitive abilities, expanding access, and improving learning quality. However, successful implementation in teaching Economics at Nigerian tertiary institutions faces challenges such as inadequate ICT infrastructure and lecturers' competence. Despite government efforts, the effectiveness of policies remains a challenge. This study aims to evaluate the impact of ICT in teaching and learning at Niger State College of Education, Minna, from the perspectives of lecturers and students.

Objective of the Study

The study sought to:

1. Examine lecturers' and students' perceptions of ICT utilization for teaching and learning in Niger State College of Education, Minna.

Research Question

The following research question guides the study:

1. What are lecturers' and students' perceptions of the extent of ICT utilization for teaching and learning in Niger State College of Education, Minna?

Research Hypothesis

The study was guided by the following null hypothesis:

1. H_{01}: There is no significant difference between lecturers' and students' perceptions of ICT utilization for teaching and learning in Niger State College of Education, Minna.

Scope of Study

The study aims to determine the perceptions of lecturers and students in Niger State College of Education, Minna, regarding the impact of ICT usage in the teaching and learning of economics. Due to the paucity of funds and time constraints, the study is limited to students and lecturers in the Department of Economics, School of Arts and Social Sciences and does not cover other departments and schools within the college.

Significance of the Study

The study's findings will benefit the Department of Economics, administrators, government officials, ICT experts, and students, offering insights into the utilization of ICT in teaching and addressing its challenges and barriers. Additionally, the findings will encourage stakeholders to embrace ICT-based teaching in tertiary education, aiding policy and investment decisions.

Literature Review

Conceptual Clarification

Concept of ICT

Gwani (2024) ICT stands for Information and Communication Technology. It refers to the broad range of technologies and tools used to handle, store, transmit, and process information digitally. ICT encompasses both hardware and software components, as well as the networks and systems that enable the flow of information. It includes technologies such as computers, smartphones, tablets, the internet, telecommunications, software applications, digital media, and more. Virmani (2024) ICT (Information and Communications Technology) encompasses tools and services that handle and communicate information, ranging from mobile phones to interactive whiteboards. Information and communication technology, or ICT , is defined as the combination of informatics technology with other, related technologies, specifically communication technology.

Concept of ICT in Education

ICT in education refers to the use of various technology tools and resources to aid and enhance the teaching and learning process. According to Brown (2023), ICT covers computers, laptops, tablets, interactive whiteboards, instructional software, online platforms, internet access, and multimedia content, all of which optimize learning experiences for students and improve the efficiency of teaching methods. ICT plays a key role in obtaining, processing, storing, and displaying data while facilitating cooperation and communication among learners and educators. It involves digital tools that promote information interchange, including computers, digital TV, email, and robotics. ICT also integrates informatics with communication technologies to promote digital engagement and increase knowledge dissemination. The value of ICT in education extends beyond convenience—it promotes access to substantial instructional materials, engages many senses for successful learning, and adds variation in pedagogical approaches to alleviate monotony (Prabhu, 2020). Furthermore, UNESCO (2021) highlights that ICT aids inclusive education by bridging the digital gap and providing flexible learning options, particularly for underprivileged populations and students in remote places. Similarly, Anderson and Dexter (2019) believe that ICT stimulates critical thinking, problem-solving, and creativity by enabling interactive and student-cantered learning settings. Moreover, ICT supports in evaluation and feedback systems, allowing educators to track students' progress effectively and tailor educational tactics (Al-Fadhli, 2022). With the increasing acceptance of ICT in classrooms globally, it is obvious that digital technology serves as a catalyst for revolutionizing education, making it more dynamic, accessible, and effective

Concept of Teaching

Teaching is the process of facilitating learning by imparting knowledge, skills, and values to students through various methods, such as instruction, guidance, and demonstration. It involves a teacher or instructor who creates an environment conducive to learning and helps students achieve specific educational goals (Ornstein & Hunkins, 2018). Teaching is aimed not only at transferring knowledge but also at encouraging critical thinking, problem-solving, and personal development in learners (Shulman, 2004).

Concept of Learning

Learning is the process of gaining information, abilities, values, or attitudes by study, instruction, or experience. It entails both internalizing new information and changing preexisting actions or knowledge. Learning is an active process in which people link new information to what they already know in order to make sense of the world around them. This process frequently results in changes in behaviour, understanding, or thought patterns (Bransford, Brown, & Cocking, 2000). It can happen in formal contexts, such as classrooms, or informally, through ordinary experiences (Kolb, 1984).

Roles of ICT in Education

In education, ICT plays a crucial role by integrating digital tools into the learning environment, enhancing the teaching and learning experience. Whether it’s multimedia presentations, educational apps, or digital textbooks, ICT in education means leveraging technology to improve the delivery and effectiveness of education Virmani (2024).

Recent studies continue to underscore the pivotal role of Information and Communication Technology (ICT) in enhancing educational outcomes. Adewoye and Salau (2023) revealed the positive relationship between ICT adoption and improved educational experiences. However, factors such as personal characteristics, organizational capacity, support, and availability significantly influence ICT adoption in Nigerian universities. Efedi and Moemeke (2010) emphasize the crucial functions of ICT in curriculum implementation, encompassing storage, dissemination, analysis, stimulation, engagement, communication, audience reach, overcoming physical constraints, enhancing productivity, and facilitating personalized education. These

positions enhance instructional quality and, if well-utilized, improve student performance. This aligns with the objectives of the National Policy on ICT in Education (2019), which aims to integrate ICT into teaching, learning, and administration to foster problem-solving, critical thinking, and creativity while ensuring access to ICT tools and infrastructure at all educational levels. By addressing traditional teaching obstacles, the policy encourages a more engaging learning environment and enhances student achievement Federal Ministry of Education (2019).

Opportunities of ICT Use in Teaching and Learning in Higher Education

ICTs in educational institutions offer significant chances to increase learning by boosting students' performance in core courses such as reading, writing, mathematics, and sciences, especially when employed under optimal conditions (UNESCO, 2021). These tools stimulate motivation, independent learning, and the development of skills required for the current, knowledge-based economy (Anderson & Dexter, 2019). Network technologies enhance active learning, innovative teaching, and change educators and students into active researchers (Al-Fadhli, 2022). ICT also alleviates lecturers' responsibilities by reducing administrative tasks like lesson preparation, grading, and communication, thereby boosting efficiency (Granados, 2011). It fosters professional development through online materials, workshops, and collaborative platforms, such as UNESCO's ICTs in Education (Anderson, 2004). Moreover,

ICT allows a change from teacher-centered to student-centered learning, encouraging students to take an active role in knowledge generation and collaboration, while lecturers act as facilitators (Prabhu, 2020). The multimedia capabilities of ICT ensure inclusive learning for everybody, including students with disabilities and those in remote regions (Cradler & Bridgforth, 2004). It also develops problem-solving, cooperation, and vocational skills (Brown, 2023). The internet's removal of geographical obstacles offers flexible access to resources, supporting varied learning demands (UNESCO, 2021). Teleconferencing bridges distance learning barriers and encourages effective use of ICT in education, leading to a flexible, interactive, and globally connected learning environment.

Theoretical Framework

The Theory of Diffusion of Innovation (DOI) by Everett Rogers, developed in 1961, is a foundational framework for comprehending the adoption and dissemination of new ideas, practices, or technologies within a social system. In the context of integrating Information and Communication Technology (ICT) in education, the DOI theory helps to understand the process of introducing innovations like ICT in teaching economics. The theory outlines key components such as the nature of innovations, communication channels used to convey information about the innovation, the time it takes for adoption, the social system within which the innovation is introduced, and the decision-making processes related to innovation adoption. The DOI theory also identifies stages through which individuals progress when adopting an innovation, starting from awareness and ending with ongoing utilization. Applying this theory to the study of ICT integration provides valuable insights into how students and lecturers of department of economics perceive and accept ICT, shedding light on the factors influencing their willingness to utilize ICT for teaching and learning purposes**.**

Methodology

This study adopted a descriptive survey research design. The population consisted of 721 final-year (300 level) students from the 2023/2024 academic session and 12 lecturers from the Department of Economics, Niger State College of Education, Minna, bringing the total population to 733.A sample size of 260 was determined using Yamane's (1967) formula at a 0.05 level of significance. The data was collected through a structured questionnaire, utilizing a simple random sampling technique. To ensure the instrument's validity, it underwent content and criterion validation by two senior lecturers in the Department of Economics, whose feedback

guided the final revision. The instrument's reliability was assessed through a pilot study, applying the Pearson Product-Moment Correlation Coefficient (PPMC) at a 0.05 significance level. The reliability index was approximately 0.8, indicating a high level of internal consistency. For data analysis, both descriptive and inferential statistics were employed. Descriptive statistics (mean and standard deviation) were used to address the research questions, while inferential statistics, specifically Pearson Product-Moment Correlation Coefficient (PPMC) and Chi-Square (χ^2) test, was applied to test the null hypotheses.

Data Presentation and Analysis

Table 4.1: Classification of Respondents by Category

Category	**Freq.**	**Percentage**
Students	248	95.38%
Lecturers	12	4.62%
Total	**260**	**100.00**

Source: Field survey 2023

Category of respondents shows that the highest response students with 248 representing 95.38%, while lecturers were 12 representing 4.62% of the returned instruments

Research Question 1: What are lecturers and students' perception on the extent of ICT utilization for teaching and learning of Economics in Niger State College of Education, Minna?

Table 4.2: Lecturers and Students Perception on ICT utilization

Statement	**SA**	**A**	**D**	**SD**	$\bar{x}$	**SDEV.**	**Decision**
1.The use of ICT in the presentation of curriculum content in Economics	143	107	6	4	6.5	59.5	Agreed
2. The use of ICT in Teaching and learning deductive analysis in Economics	172	78	3	6	5.3	41.1	Agreed
3.The use of ICT in Enhancing teaching and learning inductive reasoning in Economics students	189	69	0	2	65	70.4	Agreed
4.Use of ICT in teaching and learning special Economics skills	190	65	5	0	65	58.2	Agreed

Source: Field survey 2023. **Decision mean** = 2.5

In Table 4.2, it is observed that respondents unanimously agreed on items 1 to 6. These items include the use of Information and Communication Technology (ICT) in presenting curriculum contents in Economics, employing ICT for teaching and learning deductive analysis in Economics, leveraging ICT to enhance teaching and learning in inductive reasoning, and utilizing ICT for teaching and learning special Economics skills to improve students' comprehension, deep reasoning, and memory retention. The mean scores for these aspects were found to be 6.5, 5.3, 65, and 65 respectively, with a minimum standard deviation of 4.1.

Table 4.2: PPMC (Chi-square x^2) Correlation Coefficient of Lecturers and Students' Perceptions on the Utilization of ICT in Teaching and Learning at Niger State College of Education, Minna.

Variable	N	Mean	Df	Sd	t-val	p-val	remark
Lecturers and students´ perception	260	8.14	1	0.813	3.00	0.00	**
Utilization of ICT on the Teaching and Learning Economics	260	8.14	1	0.813	3.00	0.00	**

Source: Field Survey, 2023

Table 4.2. displayed the Chi-square (x^2) PPMC correlation coefficient of lecturers and students' perceptions regarding the utilization of ICT in teaching and learning at Niger State College of Education, Minna. The results demonstrate a significant correlation between lecturers and students' views on the application of ICT in teaching Economics. The table indicates a correlation value of 3.00 on a 2-tail test, denoting (r=8.14, n=260, df=1, t-val=3.00) at a 0.01 level of significance. Consequently, the findings suggest the rejection of the null hypothesis and the acceptance of the alternative hypothesis, signifying that the use of ICT enhances students' academic performance in learning Economics.

Summary of Findings

The findings indicate a robust agreement among instructors and students regarding the beneficial effects of ICT on the teaching and learning of Economics at Niger State College of Education, Minna. A predominant percentage of respondents (95.38% students and 4.62% lecturers) concurred that ICT augments curricular content delivery, promotes logical and inductive reasoning, and aids in the acquisition of specialized Economics abilities. Statistical study employing the Chi-square (x^2) correlation coefficient established a significant association (r=8.14, t-val=3.00, $p<0.01$) between ICT consumption and enhanced academic achievement, resulting in the rejection of the null hypothesis. This emphasizes the critical importance of ICT in enhancing understanding, reasoning, and memory recall in students, underscoring its significance for effective Economics instruction.

Discussion of Findings

In the study exploring students' and lecturers' perceptions of ICT in learning and teaching economics, the findings are in line with previous research. Agrahari and Singh (2013) demonstrated positive effects of ICT on secondary-level chemistry scores. Similarly, Ziden, Ismail, Spian, and Kumutha (2011) found enhanced achievement in science subjects with ICT use. Safdar, Yousuf, Parveen, and Behlol (2011) supported the positive impact of ICT on student achievement. Furthermore, Okoro and Ekpo (2016) found that ICT usage improved data processing, understanding, and memory. Avinash and Shailja (2013) highlighted ICT programs' effectiveness in chemistry education. However, conflicting views exist. Cener, Acun, and Mbaeze, Ukwandu, and Anudu (2010) found no significant link between ICT and academic performance. Furthermore, (Jones & Lee, 2022) opined that the integration of ICT has transformed instructional methodologies, making learning more personalized and adaptive. Educators now have access to a plethora of digital resources and online platforms that cater to diverse learning styles and abilities. Adaptive learning software, for instance, tailors educational content based on individual student progress, providing targeted support and challenges to optimize learning experiences (Brown et al., 2023).

Conclusion

The study at Niger State College of Education, Minna, investigated the perception of students and lecturers on the role of Information and Communication Technology (ICT) in teaching

Economics education. It highlighted positive perceptions among lecturers and students regarding ICT's potential in enhancing teaching and learning experiences. However, the research identified barriers such as inadequate training, lack of essential ICT resources, and limited technical support. Accessible ICT tools, including computers and projectors, were deemed crucial, but challenges like workload demands and teachers' proficiency hindered effective implementation. The study emphasized the importance of embracing ICT in education for easier dissemination of educational information to students, aligning with previous research in East African countries.

Recommendations

Based on the findings of this study the following recommendations was made:

1. Curriculum designers should incorporate ICT into tertiary syllabi to prepare students for the digital age.
2. Educational authority should Make internet access more affordable for students to enhance educational achievements through online learning and research.
3. Educational authority should provide diverse ICT tools like computers, projectors, and radios to promote ICT deployment and self-directed learning.

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