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Original Article

ICT Teaching Competency Skills Among Academic Staff of Alvan Ikoku Federal University of Education Owerri on Productivity for Sustanable Development

Josephine Ipem[1], Azukaego Ifeoma Eluemuno[2], Kennedy Alaribe[3], Joy Azubike[4]
Department of Educational Psychology/G&C, Faculty of Education, AIvan Ikoku Federal University of Education, Owerri, Nigeria[12]
Department of Life Science, Educational Psychology Imo State University, Owerri, Nigeria[3]
Department of Curriculum Studies & Educational Technology, Alvan Ikoku Federal University of Education, Nigeria[4]

Abstract. This study was conducted against the growing importance of Information and Communication Technology (ICT) in enhancing teaching effectiveness and achieving sustainable development in education. However, despite increased access to ICT, concerns remain regarding the competency of academic staff in its effective utilization. This study therefore investigated the influence of ICT teaching competency skills on the productivity of academic staff at Alvan Ikoku Federal University of Education, Owerri. A quantitative approach using a descriptive survey design was adopted. The population comprised 735 academic staff, from which a sample of 300 was selected using cluster random sampling. Data were collected using a validated researcher-developed rating scale (ASICTTCSRS) with reliability coefficients of 0.86 and 0.81. Mean and standard deviation were used to answer research questions, while z-test was employed to test hypotheses at 0.05 level of significance. Findings revealed that ICT teaching competency skills significantly enhance academic staff productivity. However, the level of ICT competency possessed by the staff was significantly below the expected average, indicating a gap between awareness and practical skills. The study concludes that improving ICT competency is essential for enhancing productivity and achieving sustainable development. It recommends targeted training and institutional support to strengthen ICT integration in teaching practices.

Keywords: Information and Communication Technology (ICT), Teaching Competency Skills, Productivity

Corresponding author: Azukaego Ifeoma Eluemuno, Email: azukaego.eluemuno@alvanikoku.edu.ng, Owerri, Nigeria.

Introduction

Education has become a crucial instrument for achieving rapid growth and sustainable development in any nation. The level of societal development is closely linked to the effectiveness of a well-organized, managed, and supervised educational system. Through teaching and learning processes, learners acquire the knowledge, skills, attitudes, and interests necessary to function effectively in society. However, these processes are increasingly evolving due to rapid advancements in science and technology, which have made the world more interconnected and continue to transform society at an unprecedented pace. Technology is now use in all spheres of human endeavour e.g., security, banking, transportation, accounting,

television, music, economics, (agriculture, phones, camera, wrist watches, internet and education to mention a few (Jimoh & Ipem, 2023).There has been transformation in operations shifting from manual or analogue to digital through the use of ICT facilities as computer, satellite, radio, software's and hard wares, internets, films, multimedia etc (Ipem et al., 2024).

Information and Communication Technology (ICT) has become an indispensable tool for effective service delivery across various sectors. It encompasses a range of technologies used for storing, managing, and processing information, as well as facilitating communication among users. In the context of education, ICT enhances teaching and learning processes by enabling meaningful interaction between teachers and learners, as emphasized in Vygotsky's socio-cultural theory (Vygotsky, 1978). Uwakwen (2023) noted that the transformation in teaching from the traditional chalkboard to the application of multimedia technologies has revolutionized education thus every system in education must follow suit. However, despite the numerous advantages of ICT especially in teaching and learning, there appears to be lack of seriousness among some academic staff of Alvan Ikoku Federal University of Education Owerri on the acquisition of ICT competency skills needed to efficiently and effectively succeed in the 21st century learning skills. Though most academic staff claim to be computer literates any time such question arises; but in practice they are not. The transfer of knowledge and skills to the growing generation is an endeavor that requires adoption of modern innovations to keep pace with the emerging trends in the 21st century education system. One of the innovations that could influence and still capable of enhancing knowledge delivery is the integration of Information and Communication Technology (ICT) at all levels of the education system. Njoku (2023) argued that Nigeria like other developing countries of the world is still in the initial stages of integrating information and communication technology in teaching and learning process, and the academic Staff of Alvan Ikoku Federal University of Education Owerri is not exceptional.

Academic staff members are professionals with duties primarily associate with higher education, institutions or administration (Yusuf et al., 2022). In this study, academic staff refers to lecturers in Alvan Ikoku Federal University of Education Owerri who deliver lectures in the University, as well as professionals who teach the students and carry them out other duties assigned to them by the University.

ICT according to IET (2023) is an element of many industries which allow companies to make use of different tools in their day to day activities. George (2023) described computer as an electronic device that accepts input and stores the data in its memory, process the data by means of stored program and output the result of the processed data. Ipem et al. (2024) noted that the utmost modern advance to global economic development is the revolution of ICT and it is increasingly expanding and evolving creation that has noticeably transformed the approach we do almost everything including e-learning, e-commerce, e-library, e-mails, e-banking, and e-crimes. Even at present, the global economic development and competitiveness are increasingly becoming knowledge obsessed (Mitra et al., 2023). Ipem et al. (2023) stated that ICT is the processing, maintenance and integration of information, and the use of all forms of computer, communication, network and mobile technologies to mediate information. The communication technologies of ICT takes account of all media engaged in transmitting data, audio, video, or multimedia such as fibreoptics, wireless (radio, infra-red, blue tooth, Wifi), cable and satellite. While the computer technology aspect of ICT incorporates all removable media such as USB drives, disks, optical discs, books, video, interactive electronic boards, multimedia projectors and incessant.

ly rising state-of the- art Personal Computers (PCs) (Aguluka, 2023). Okwaraeze (2022) described ICT as the technology that deals with the study, design, development, implementation, support and management of computer based information system that is used to acquire, convert, store, process, distribute, and retrieve information to the users. Ikwuka et al. (2021) explained ICTs as tools, facilities, processes and equipment that offers the required environment with physical infrastructure and services for the generation, transmission, processing, storing and transmission of information in all forms including texts, voice, data, graphic and videos. ICT

skills according to Gutiérrez-Martín et al. (2022) include any direct interaction with technology, e.g. turning on a computer, using hardware to print and copy documents, using digital cameras to capture photographs, online search, social media management, data management, desktop publishing, word processing, collaboration, problem solving and organization. Ntrorukiri et al. (2022) defined ICT competency as the ability of an individual to effectively use and apply Information and Communication Technology (ICT) tools and resources in various domains such as education, e- governance, and library services. It involves skills in using computers, teaching assessment applications, internet resources peripheral devices and online communication platforms. UNESCO (2023) described ICT competency framework for teachers as a tool to guide pre-and in-service teacher training on the use of digital technologies in both formal and informal education system to tertiary level. Information and Communication skills are abilities that help an individual understand and operate a wide range of technology software and these include helping the users with tasks of computers such as making video calls, searching on the internet, or using a mobile device like tablet or phone (IET, 2023).

Consequently, Ibrahim (2018) noted that there have been changes in the contemporary social and economic development of the nation and these changes has expanded the range of tasks and leaning needs and education is the remedy to the challenging needs of the 21st century. There is need to master the skills that will make teachers be able to forecast future solutions and prepare the youths for the changes in globalization, integration of communities in the society, development of the economic market, rapid development on digitalization and cultural changes. These could be achieved through ICT and teachers are really facing these new challenges (Nwosu, 2022). Ike (2022), reported that lecturer's perception of the role of ICT in management of University education was significantly low and this affects the level of job efficiency in the classroom teaching, communication, students record keeping, research and publications. Thus classrooms are still very much traditional without much influence on ICT.

Obi (2021) reported that till date, the World Wide Web, Electronic Mail, Electronic Spreadsheet, Word Processing, CD-ROM, Use of Projector, Use of computer, Web Design and Chat room have been the major ICTs used in the teaching and learning in Nigerian Universities and Alvan Ikoku Federal University of Education in particular. But the extent to which ICTs influence effective teaching and learning needs scholarly and professional attention.

To this end, Ipem et al. (2024) indicated that information and communication technology has actually gingered stakeholders in the education sector to equip schools with computers and trained personnel to produce technological proficient and efficient students in our developing economy. This points to the fact that information and communication technology is charting a new course in the teaching and learning process in Nigeria and as such all persons involved should embrace it for the good of our educational system and for the betterment of the Nigerian economy and sustainable development. On the utilization of information and communication technology in the teaching and learning Abah (2016) revealed that though information and communication gadgets have been provided, however its effective utilization is below the expectation of the curriculum specification.

The development of information, communication, and technology in the recent years shows that students and teachers now have access to wide varieties of information communication technologies (L-Mustapha et al., 2003). However, the impact is yet to be felt in the performance of students in the education sector. But the extent to which ICTs influence effective teaching and learning in higher institution especially in AIFUE needs scholarly and professional attention. This study therefore investigated the influence of ICT on teacher competency skills.

The academic staff of Alvan Ikoku Fed eral University of Education Owerri has a lot of duties to perform in other to achieve their institutional and the national goals. Some of their key duties include: teaching, researching, publishing of research work and other academic works, making and recording of students test and examination scores, supervising students research work, supporting of students learning among others necessarily requires the use of ICT for

effective discharge of the mentioned duties. Some authors have been able to describe the relevance of ICT in the fields of teaching and research as follows.

ICT encompasses a wide range of technologies such as computers, communication devices, and multimedia tools that support information processing and dissemination. In educational and research contexts, these technologies including email, video conferencing, and online platforms facilitate communication, access to learning resources, and collaboration. Students and educators utilize various applications such as word processing and spreadsheets to support academic tasks, including writing, data analysis, and project development. Overall, ICT represents the integration of hardware and software technologies that enhance teaching, learning, and research activities (Abidoye & Afolabi, 2011).

Furthermore teachers in advanced countries, most often use ICTs for routine task (record keeping, lesson plan, developing basic information, searching on the internet) (Vikaspedia, 2024). To students, scholars have agreed that the use of ICT; enhances concentration and comprehension; promotes students' flexibility and autonomy; encourages critical thinking; facilitate communication between teachers and students; increases classroom productivity and collaborative work; stimulates students' inspiration to learn and incorporates new teaching methods (Telefonica, 2023). Also the use of ICTs improves teaching and learning experiences, increases students' engagement and participation; facilitates access to wide range of educational resources improves communication and collaboration.

Sustainable development is an important consideration in this study, as education is increasingly recognized as a key driver of human and societal progress. Global initiatives such as the Millennium Development Goals (MDGs) emphasize the provision of inclusive and quality education as a means of reducing poverty and promoting sustainable development. In this context, the quality of human resources produced by educational institutions largely depends on the competence of teachers, highlighting the need to continuously improve educational standards in Nigeria in response to growing global demands. Considering also what the students are expected to know and understand in terms of skills, aptitudes, and attitudes they need to imbibe, very high standards have to be upheld if students are to be able to confront future challenges in their quest for self- sufficiency and by extension contribute to sustainable national development (Okoro & Ezeonwumelu, 2016). Ipem et al. (2022) described national development as the comprehensive transformation of society, encompassing poverty reduction, wealth creation, equitable distribution of resources, and improved social welfare. They further explained sustainable development as the establishment of a stable economy, a just and egalitarian society, and a unified community characterized by social equity and collective identity.Information and Communication Technology (ICT) has become an important drive for sustainable development in Nigeria. The Sustainable Development Goals (SDGs) agenda according to UN 2015 include No poverty, Zero Hunger, Good Health and well- being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and clean energy, Decent Work, and Economic Growth. Industry, innovation and Infrastructure, Reduced Inequality, Sustainable cities an d Communities, Responsive Consumption and Production, Climate action, Life below water, Life on Land, Peace, Justice and strong institution Partnerships for the Goals (UN, 2024).

To facilitate the sustainable development in various Countries, ICT has emerged as a backbone for SDGs that helps to bring about their advancement towards meeting targets; partnerships, justice, protection, natural resources such as forest, pollution and free atmosphere. The researcher argued that effective utilization of ICT will facilitate the achievement of SDGs in Nigeria (Gwani, 2023). Tyagi, Vishwakarma and (Mohammed, 2020) noted that transforming power of ICT can be used to make the pattern of production and consumption more sustainable. Tjoa & Tjoa (2016) emphasized that ICT serves as a key enabler of efficient resource utilization in education and business operations, making it a critical factor in achieving the Sustainable Development Goals (SDGs). ICT also provides opportunities for individuals to access and share information, thereby supporting innovation, knowledge creation, and inclusive participation in

the digital economy. In line with this, Sass et al. (2025) identified essential competencies that teachers need to develop for sustainable development, including collaboration, critical thinking, adaptability, communication, classroom management, problem-solving, and organizational skills.

Despite these huge benefits of ICT to the teachers and students, the research observed that in most lecturers education institutions teachers are still finding it very difficult to explore and effectively harness ICT in optimization the discharge of their duties most especially the old believe that it can still continue with the analogue way they were trained and still achieve good result instead of embracing the digital technology.

Tertiary education is one of the critical levels of education in Nigeria. It is the education people receive after unsuccessfully completing their senior secondary school education (Uduak Imo et al., 2024). A close look on the aims of tertiary education as stipulated in the National Policy in Education suggests that the country really intend to achieve sustainable development through education. Sustainable development has been defined in various ways. It is defined as the development that involves designing a social and economic system which ensures that rise in real income is sustained, educational standard increased, the health of a nation improved and the generality of life advanced (Ipem et al., 2022). It has been viewed as the type of development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Mulero et al., 2024). There is no doubt that sustainable development can be achieved through quality education that is developed in line with the presented while preparing the present generation to be capable of meeting their need in near future. This view aligns with previous findings that sustainable development cannot be achieved solely through technological, political, or financial measures, but requires a transformation in ways of thinking and acting through quality education at all levels (Onyido, 2017).

This means that sustainable development could be achieved with the help of quality education. This assertion makes teacher education very important in achieving sustainable development. Teacher education in Nigeria is established to achieve five goals which include: to produce highly motivated, conscientious and efficient classroom teachers for all levels of the educational system; further encourage the spirit of enquiry and creativity in teachers; help teachers fit into the socials of the community and the society at large and enhance their commitment of national goals; provide teachers with the intellectual and professional background adequate for their assignment, make them adaptable to changing situations; and enhance teachers' commitment to the teaching profession (Uduak Imo et al., 2024). Considering these goals and aims of tertiary education especially the first and second which are to: contribute to national and international understanding and interaction (Uduak Imo et al., 2024) respectively make the use of ICT very indispensable.

It seems that some of the academic staff of Alvan Ikoku Federal University Owerri cannot easily and fully adapt to the changing situations in the field of education like the technologically d riven education. To promote national and international understanding and interaction as seen in the fourth goals of teacher education goals and the fifth aims of tertiary education respectively requires a system that can enhance it. This makes the use of ICT indispensable. Despite the huge academic benefit of the use of ICT especially the e-learning. It is shocking that some teachers at the secondary school level are not fully utilizing the ICT materials for instructional delivery (Nwana, 2013), while the use efface book and whatsapp which are aspects of ICT relate to student academic achievement (Ncheke et al., 2020).

Statement of the Problem

The researchers observed that despite the fact that several seminars and workshops have been organized on the use of ICT which has created much awareness on the benefit of ICT in instructional delivery, some of the academic staff seems not to have fully embraced the use of

ICT devices for effective instructional delivery. For the nation to have sustainable development the academic staff need to fully embrace the ICT technology in order to produce future teachers who would be able to produce work force that are technologically sound to sustain the economy of the nation. The problem of this study is that though many research works has been carried out on the areas of ICT, ICT skills and teaching competencies; none of these studies were carried out among Academic staff of AIFUE which is the focus of the present study. Secondly, some studies found related to the present study were carried out outside AIFUE Owerri. Hence their findings are foreign and therefore cannot be basically related to the said University. More importantly, the academic of AIFUE are still faced with difficulties in the use of ICT teaching competency skills. Thus the gap the study tried to fill; to investigate influence of ICT teaching skills among academic staff of Alvan Ikoku Federal University of Education, Owerri on productivity for sustainable development.

Research Questions

The following research questions were posed which guided the study.
To what extent do ICT teaching competency skills positively influence the productivity of academic staff of Alvan Ikoku Federal University of Education Owerri?
To what extent does academic staff of Alvan Ikoku Federal University of Education Owerri possess ICT teaching competency skills?

Hypotheses

The following hypotheses were formulated and tested at 0.05 levels of significance.
H01: The extent the ICT teaching competency skills positively influence the productivity of academic staff of Alvan Ikoku Federal University of Education Owerri is not significantly different from the expected average.
H02: The extent the academic staff of Alvan Ikoku Federal University of Education Owerri possess the ICT teaching competency skills is not significantly different from the expected average.

Method

This study employed a quantitative approach using a descriptive survey research design to examine ICT teaching competency skills among academic staff and their influence on productivity for sustainable development.

Participants

The participants of this study were academic staff of Alvan Ikoku Federal University of Education, Owerri. The total population comprised 735 academic staff. A sample of 300 participants was selected for the study, which exceeds the minimum sample size requirement as suggested by Taro Yamane's formula. The participants consisted of lecturers drawn from different faculties and departments within the university, ensuring representation across various academic disciplines.

Sampling Procedures

A cluster random sampling technique was employed in selecting the sample. The academic staff were grouped into clusters based on their respective faculties and departments. From these clusters, participants were randomly selected to ensure that each academic unit was adequately represented. Data were collected within the university environment, where respondents voluntarily participated in the study. The sampling approach ensured that the selected participants reflected the characteristics of the larger population.

Materials and Apparatus

The instrument used for data collection was a structured rating scale titled *Academic Staff ICT Teaching Competency Skills Rating Scale (ASICTTCSRS)*. The instrument consisted of two clusters (A and B), designed to measure ICT teaching competency skills. The items were structured using a four-point Likert scale: High Extent (HE = 4), Moderate Extent (ME = 3), Low Extent (LE = 2), and No Extent (NE = 1). To ensure the validity of the instrument, it was subjected to face and content validation by experts in educational technology and measurement and evaluation. Reliability was established using Cronbach's Alpha, yielding coefficients of 0.86 and 0.81 for clusters A and B respectively, indicating high internal consistency.

Procedures

The instrument was administered directly to the selected academic staff within their respective faculties and departments. Participants were informed about the purpose of the study and were assured of the confidentiality of their responses. Participation was voluntary. Respondents were required to indicate their level of agreement with each item based on their experience and practice of ICT in teaching. The completed instruments were collected and prepared for analysis.

Design or Data Analysis

Data collected were analyzed using mean and standard deviation to answer the research questions. A criterion mean of 2.50 was used as the benchmark for decision-making. To test the hypotheses, z-test statistics were employed at a 0.05 level of significance. The choice of z-test was based on the relatively large sample size and its suitability for testing differences in mean responses.

Results and Discussions

Table 1 showed the extent to which the use of ICT helps the academic staff of Alvan Ikoku Federal University of Education Owerri to prepare and deliver their instruction and other duties very well. The table showed the mean and standard deviation often items. Each of the ten items has mean values of approximately four (that is to the nearest whole number) which indicates high extent. The cluster mean and standard deviations are 36.89 and 1.45 respectively which higher than the expected average of 25.00 (that is 10*2.5=25.00).

Table 1. Extent ICT Teaching Competency Skills Positively Influence Productivity of Academic Staff of Alvan Ikoku Federal University of Education Owerri

S/N	Items Statement	X	S	Dec
1.	ICT skills can made teaching and learning easier.	3.560	0.05	HE
2.	ICT competency skills help to improve quality teaching and learning.	3.76	0.47	HE
3.	The implementation of ICT skills by teachers can promote academic performance of students.	3.62	0.49	HE
4.	Adequate knowledge of ICT skills can improves teachers productivity	3.65	0.48	HE
5.	ICT skill as tools can make Teaching and Learning meaningful and interesting for student and teachers.	3.62	0.49	HE
6.	Implementation of ICT skills in its classroom enhances can understanding and retention of learning materials.	3.69	0.49	HE
7.	When ICT skills are employed, learners are more likely to become attentive in their class.	3.77	0.42	HE
8.	Teachers as well as learners might be more active and engaging when ICT resources and employed in teaching.	3.74	0.44	EE
9.	ICT skills expose teachers on how to explore on professions that they engage themselves.	3.73	0.44	HE
10.	Using of ICT skills have transformed ways things were formally done in teaching and learning socially and academically.	3.81	0.40	HE
	Cluster Mean & Standard Deviation	36.89	1.45	AEAL

AEAL=Above Expected Average Level

Table 2: Summary Result of z-test of Hypothesis One

Category of Mean	X	S	Z-cal.	SL	Z-tab	Dec.
Cluster	36.89	1.45	142.03	0.05	1.96	H01 is rejected
Expected	25					

Table 3. Extent Academic Staff of Alvan Ikoku Federal University of Education Owerri Possess ICT Teaching Competency Skills

S/N	Items Statement	X	S	Dec
1.	Use of word processing to create digital presentation of educational information.	2.23	1.09	LE
2.	Use of ICT (computer) to type. Print and upload result.	1.93	0.99	LE
3.	Typing research materials and conference papers themselves	1.93	0.99	LE
4.	Computing students tests scores and a spread sheets and analyzing them.	1.92	1.01	LE
5.	Sending and receiving e-mail message.	3.29	0.75	ME
6.	Application of effective research techniques to produce useful and safe online resources in the classroom	2.21	1.10	LE
7.	Digital presentation of education information	2.35	1.08	LE
8.	Multimedia creation	2.65	1.05	ME
9.	Computer literacy	2.73	0.96	ME
10.	Creating rich ICT based learning environment	2.21	1.10	LE
11.	Operating of hard and software information	2.35	1.08	LE
12.	Classroom management and control	2.55	1.09	ME
13.	Production and management of learning documents	2.55	1.09	ME
14.	Designing effective learning experiences.	1.93	0.99	LE
	Cluster Mean & Standard Deviation	32.80	3.04	BEAL

Table 2 showed the summary result of z-test of hypothesis one. It showed that the calculated z-value is 142.03 is greater than the tabulated z-value of 1.96at 0.05 significant levels hence, the null hypothesis is rejected and the alternative accepted. This means that the extent to which the use of ICT helps the academic staff of Alvan Ikoku Federal University of Education Owerri to prepare and deliver their instruction and other duties very well (productivity) is significantly above the expected average level.

Table 3 showed the mean, standard deviation and decisions taken. Each of the items with serial number, 1, 2, 3, 4, 5, 6, 7, 10, 11, and 14 has mean value of approximately 2 (to the nearest whole number) which indicated low extent. Each of the remaining items has mean value of approximately 3 which indicated moderate extent. The cluster mean and standard and deviation are 32.80 and 3.04 respectively which is above the expected average level.

Table 4. Summary Result of z-test of Hypothesis Two

Category of Mean	X	S	Z-cal.	SL	Z-tab	Dec.
Cluster	32.80	3.04	12.53	0.05	1.96	H_{02} is rejected
Expected	35.00					

Table 4 showed the summary result of z-test of hypothesis one. It showed that the calculated z-value is 12.53 is greater than the tabulated z-value of 1.96 at 0.05 significant levels hence, the null hypothesis is rejected and the alternative accepted. This means that the extent the academic staff of Alvan Ikoku Federal University of Education Owerri possess the ICT teaching competency skills is significantly below the expected average level.

Discussion

The findings of this study revealed that the extent to which ICT teaching competency skills positively influence the productivity of academic staff of Alvan Ikoku Federal University of Education, Owerri is significantly above the expected level. This suggests that, at the conceptual level, academic staff demonstrate a strong awareness of the importance of ICT in enhancing teaching effectiveness and overall productivity. The high mean scores obtained indicate that respondents acknowledge the role of ICT in improving instructional delivery, student engagement, and learning outcomes.

This finding aligns with L-Mustapha et al. (2003), who reported that both students and teachers now have access to a wide range of information and communication technologies. The implication of this access is that ICT has become an integral part of modern educational practice. Similarly, Vikaspedia (2024) emphasized that the use of ICT enhances concentration, comprehension, and learner autonomy, while Telefonica (2023) argued that ICT fosters critical thinking, collaboration, and improved learning experiences. Ezurike et al. (2020) further supported this position by noting that ICT enhances learning and makes teaching more effective. These converging findings suggest that ICT is widely recognized as a valuable tool for improving educational processes.

However, beyond mere agreement with previous studies, the present finding may be attributed to increased exposure to digital technologies and growing awareness of their pedagogical benefits among academic staff. The global shift towards digitalization in education, particularly after recent technological advancements, may have contributed to this positive perception. Despite this, Abah (2016) pointed out that although ICT facilities are available, their effective utilization often remains below expectations. This indicates that while awareness is high, practical implementation may still be limited.

In contrast, the study also revealed that the extent to which academic staff of Alvan Ikoku Federal University of Education, Owerri possess ICT teaching competency skills is significantly

below the expected average level. This finding highlights a critical gap between perceived importance and actual competency. It suggests that although lecturers recognize the value of ICT, they may lack the necessary skills to effectively integrate it into their teaching practices.

This finding is consistent with Ike (2022), who reported that lecturers' perception of ICT usage in university education is relatively low in terms of practical application, thereby affecting their efficiency in teaching, communication, record keeping, and research activities. Obi (2021) also supported this position by noting that although ICT facilities are widely available, their effective utilization in teaching and learning still requires greater scholarly and professional attention. These findings collectively suggest that the challenge lies not in awareness, but in skill acquisition and practical implementation.

The observed disparity between high perceived benefits and low competency levels may be influenced by several contextual factors. These may include inadequate training opportunities, limited institutional support, lack of continuous professional development programs, and resistance to change among some academic staff. Additionally, infrastructural challenges and inconsistent access to functional ICT tools may further hinder effective utilization.

The implication of this finding is significant for both educational practice and policy. From a practical perspective, the inability of academic staff to effectively utilize ICT may limit their productivity and reduce the quality of instruction delivered to students. As the saying goes, educators cannot effectively teach what they do not fully understand or possess. Consequently, students trained under such conditions may graduate without adequate ICT competencies required in the modern workforce.

From a theoretical standpoint, this study contributes to existing literature by highlighting the gap between ICT awareness and actual competency among academic staff, particularly within the context of developing countries. It reinforces the need to move beyond access and perception studies towards a deeper understanding of competency-based integration of ICT in education.

Furthermore, this situation poses a serious threat to the achievement of sustainable development goals, particularly in the area of quality education. If academic staff lack the necessary ICT competencies, the broader objective of producing skilled and digitally competent graduates may be compromised. This underscores the urgent need for government and institutional stakeholders to intensify efforts in capacity building, training, and provision of adequate ICT infrastructure.

Overall, the findings of this study indicate that while academic staff recognize the importance of ICT in enhancing productivity, there is a pressing need to bridge the gap between knowledge and practice. Addressing this gap is essential for improving teaching effectiveness, enhancing academic productivity, and achieving sustainable development in the education sector.

Conclusions

This study examined the influence of ICT teaching competency skills on the productivity of academic staff of Alvan Ikoku Federal University of Education, Owerri within the context of sustainable development. The findings revealed that academic staff demonstrate a high level of awareness regarding the importance of ICT in enhancing teaching effectiveness and productivity. However, despite this positive perception, the level of ICT teaching competency skills possessed by the academic staff was found to be significantly below the expected average level. This indicates a clear gap between awareness and actual competency in the use of ICT for instructional and professional purposes.

The findings of this study contribute to existing knowledge by highlighting that access to and awareness of ICT alone are insufficient to improve academic productivity without

corresponding competency skills. This underscores the need to shift focus from mere availability of ICT resources to the development of practical skills required for effective utilization. From a practical perspective, the results imply that the limited ICT competency among academic staff may hinder effective teaching, reduce productivity, and ultimately affect the quality of graduates produced, thereby posing a challenge to the achievement of sustainable development goals in education.

Based on these findings, it is imperative for academic staff to actively integrate ICT teaching competencies into their instructional delivery and other academic responsibilities. In addition, university management should implement supportive policies and structured capacity-building programs, such as regular training, seminars, and workshops, to enhance ICT competency skills among staff. Particular attention should be given to identified areas of low competency to ensure targeted and effective intervention.

Despite the contributions of this study, certain limitations should be acknowledged. The study was limited to a single institution, which may affect the generalizability of the findings. Furthermore, the use of a survey design relied on self-reported data, which may be subject to response bias. Future research could expand the scope by including multiple institutions, employing mixed methods approaches, or examining additional variables such as institutional support, infrastructure, and attitudes toward technology. Overall, bridging the gap between ICT awareness and competency is essential for improving academic staff productivity and ensuring that higher education institutions effectively contribute to sustainable development.

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