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TEACHERS' ICT SKILLS AND UTILIZATION OF ICT MATERIALS FOR INSTRUCTIONAL DELIVERY IN PUBLIC SENIOR SECONDARY SCHOOLS IN WUKARI, NIGERIA

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ABSTRACT

Introduction: ICT has become a household name in all spheres of live. The roles playing by Information and Communication Technology in the field of education has been tremendous in today's teaching and learning.

Purpose*:* The purpose of this study was to investigate teachers' ICT skills and utilization of ICT materials for instructional delivery in public secondary schools in Wukari, Nigeria. Three research questions and three null hypotheses were formulated to guide the study.

Methodology: The study adopted descriptive survey research design. The population of the study comprised 3,523 secondary school teachers in Wukari. A sample size of 360 teachers were selected from the entire population. The instrument for data collection was Teachers' ICT Skills and Utilization of ICT Materials for Instructional Delivery Questionnaire (TICTSUICTMIDQ). The instrument was validated by experts from measurement and evaluation department. The reliability coefficient of 0.86 was derived using Cronbach alpha reliability statistics. Mean and standard Deviation were used to answer the research questions while independent t-test was used to test the research hypotheses at 0.05 level of significance.

Result: The findings of this study revealed that teachers' ICT skills and access to ICT materials enhances instructional delivery in Wukari.

Conclusion: The study concluded that, to a very high extent teachers' access to computer, ICT materials and its utilization enhance instructional delivery in Wukari.

Recommendation: The study recommended, that government should implement ICT training programs for teachers in Wukari to enhance their skills in utilizing digital tools effectively.

Keywords: Teacher, ICT skills, ICT materials, Instructional Delivery

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PUBLIC INTEREST STATEMENT

The study will be of significant impact to the secondary school teachers in Wukari Local Government Area. It will help teachers to deliver lessons using computers and other ICT materials to enhance students' academic achievement in all subjects. The study will also be of benefit to the policy makers, future researchers and students as it will help them to understand the roles of computer and ICT usage in lesson delivery. Application of ICT materials for instructional delivery will enhance students' understanding of the importance of digital tools and how it works most especially in the field of education.

INTRODUCTION

The advancement of information and communication technology (ICT) has transformed the world into a connected global community. The adoption of Information and Communication Technology (ICT) in education has been a crucial area of focus for educational institutions across all sectors, encompassing teaching, learning, research, information dissemination as well as management activities for several years. In Nigeria, there has been a noticeable surge in the presence of ICT within the educational system. Institutions within the country are exploring methods to integrate information and communication technology across all sectors of education. OECD (2011) highlights the use of ICT as a necessary tool in enhancing the quality of teaching and learning. Gates (2016) notes that the digitization of information is crucial to meet future demands. Responding to this, Garcia and Lee (2020) emphasize that technology has opened up new opportunities for learning, which have significantly increased productivity. Consequently, the integration of technological competencies into education programs and student training has become imperative.

The incorporation of ICT materials in instructional delivery is essential to achieve various objectives and enhance the quality of teaching across all subject areas. ICT has become an integral part of our daily lives, driving processes that rely on information. As a result, it is crucial for every individual in the country to possess computer literacy and technological competency. In light of this, schools must be equipped with the necessary ICT tools and resources to ensure access and utilization, as well as the acquisition of requisite skills. Bataineh, (2013) opined that, teachers should receive continuous and adequate training, to ensure that technology aligns with the curriculum's philosophy and theory of learning, and have sufficient computers conveniently placed within the classroom. Providing training, hardware, and software is not sufficient; ongoing support and peer mentoring are also necessary to ensure successful use of technology. ICT, as a tool, has the potential to transform education delivery (Fisher, 2015). It enables differentiation and individualization by tailoring content and presentation to the unique background, experience, and needs of students. The new digital ICT comprises a combination of hardware, software, multimedia, and delivery systems.

Mandah, (2016) opined that ICT include all the technologies both old and new that human have used throughout history to gather data, store data, process data, and disseminate information. Adedeji (2011) further stated that ICT is a generic term that refers to technologies used for collecting, storing, editing and passing on information in various forms to various destinations. It also includes applications such as word processors, spreadsheets, tutorials, simulations, email, digital libraries, computer-mediated conferencing, videoconferencing, virtual environments, simulators, emulators, among others.

Recently, the facilitation of communication and broadening of learners' knowledge has been achieved through the development of microcomputers, optimal disc, the establishment of telecommunication network, television, internet, among others (Ziden 2011. Harris (2011) suggests that the benefits of ICT can be

realized when confident teachers are willing to embrace new opportunities to transform their classroom practices using ICT materials. The necessity for using ICT materials in the instructional delivery process in secondary schools cannot be overemphasized.

Instructional delivery is the process whereby the teacher (instructor) carefully selects the method and technique for handing down learning experiences to learners through appropriate media of communication. In the context of this study, instructional delivery entails preparing and sending learning experiences to learners in the secondary schools. A few years ago, precisely late 20th century and early 21st century, technological advancements changed the face of instructional delivery. ICT has come in vogue in the instructional delivery (teaching and learning) process in learning institutions including in secondary schools (United Nations Education Scientific and Cultural Organization (UNESCO), (2014).

Instructional delivery also refers to the methods and strategies used by teachers to deliver information, engage students in learning, and facilitate their understanding of the subject matter. It encompasses various techniques, resources, and technologies employed to effectively transmit knowledge and promote meaningful learning experiences, (Al-Bataineh and Brooks, 2013. Utilization of ICT materials is the adoption of communication technologies for the purpose of achieving content delivery and for retrieving feedback from learners to attain the core objective of the content (Achuonye, 2014).

Furthermore, Secondary education in Nigeria is the level of education expected to prepare children for smooth entry into the university and into work place for those whose terminal point of education will be secondary level. Also, apart from serving as the link between primary and tertiary education, it provides opportunity for a child to acquire additional knowledge, skills, and traits beyond the primary level. In the light of the above, secondary education prepares children for useful living within the society and higher education. In the context of this study public secondary education is our focus. Public secondary education refers to the system of education provided by governmental or public institutions for students in the secondary stage, typically comprising grades 9 to 12 or 10 to 12, depending on the country. Public secondary schools are funded and operated by the government, ensuring that education is accessible to all students within a specific jurisdiction.

Public secondary schools aim to offer a comprehensive curriculum that covers various subjects such as mathematics, science, language arts, social studies, physical education, and elective courses. The curriculum is designed to provide students with a well-rounded education and prepare them for further education, career opportunities, and adulthood. Incorporating Information and Communication Technology (ICT) in secondary schools' curriculum can boost the students' understanding of the concepts taught by teachers. Many researchers are using the term "information and communication technologies" since the 1980s. In 1997, Dennis Stevenson popularized the abbreviation "ICT" in a report to the UK government, and it was later included in the revised National Curriculum for England, Wales, and Northern Ireland in 2000. However, in 2012, the term "ICT" received negative associations, leading to a recommendation by the Royal Society to discontinue its use in British schools. Since 2014, the National Curriculum has adopted the term "computing" to incorporate computer programming. This change has influenced variations of the phrase globally, including the creation of the "United Nations Information and Communication Technologies Task Force" and the establishment of the internal "Office of Information and Communications Technology" within the United Nations.

Information and communications technology (ICT) is an extensional term for information technology (IT) that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers, as well as necessary enterprise software,

middleware, storage and audiovisual, that enable users to access, store, transmit, understand and manipulate information. ICT is also used to refer to the convergence of audiovisuals and telephone networks with computer networks through a single cabling or link system. There are large economic incentives to merge the telephone networks with the computer network system using a single unified system of cabling, signal distribution, and management. ICT is an umbrella term that includes any communication device, encompassing radio, television, cell phones, computer and network hardware, satellite systems and so on, as well as the various services and appliances with them such as video conferencing and distance learning. ICT also includes analog technology, such as paper communication, and any mode that transmits communication.

Information Communication Technology (ICT) has become an essential element of modern society. It refers to the use of digital technologies such as computers, smartphones, and the internet to manage, process, and exchange information. With the proliferation of modern technological equipment such as computer teleconference, internet, electronic mail, video text, cable television etc. for the process of teaching and learning. People can now easily get in touch and exchange information in multimedia electronically from any point on the globe to another. Education in recent years is becoming very expensive. The student's population explosions diversify the dimension of the programmes, such that it needs adequate information and communication technology to manage our educational system. This has to do with the use of computer and telecommunications systems like audio visual formats, telephone, radio, tape record, overhead projector, television, slide projector, CD-ROM and film stripes. These could be appreciated through the ICT training for secondary school teachers. A teacher with quality training in ICT gives birth to quality ICT students.

STATEMENT OF THE PROBLEM

The integration of Information and Communication Technology (ICT) materials in instructional delivery has become increasingly important in modern education. It is difficult to undermine the place of ICT in education and the world at large. The use of ICT materials can enhance teaching and learning outcomes, improve student's engagement, motivation, and equip students with skills that are essential in the digital age. The Taraba State government has recently taken a proactive measure by renovating secondary schools and equipping them with the necessary ICT facilities to enable teachers to serve public secondary school students to maximize the potentials of ICT.

However, the effective utilization of ICT materials in these public secondary schools for instructional delivery depends to a large extent on the skills and knowledge of teachers. To what extent do these teachers utilize ICT materials for instructional delivery? To what extent can these teachers surf the internet for effective instructional delivery? These and many other questions form the bedrock for this study.

PURPOSE OF THE STUDY

Specifically, the study intends to:

1. Assess the number of teachers who have access to ICT materials for instructional delivery in public secondary schools in the Wukari LGA
2. Investigate the number of teachers that can operate computer system in public secondary schools within Wukari LGA.
3. Examine the level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari LGA.

RESEARCH QUESTIONS

1. To what extent does public secondary school teachers' access to ICT materials enhance instructional delivery?
2. What percentage of teachers in public secondary schools within

Wukari can operate computer system?

3. What is the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari LGA?

HYPOTHESES

1. There is no significant difference between the mean ratings of male and female teachers on the extent teachers access to ICT materials enhance instructional delivery in public secondary schools within Wukari LGA.
2. There is no significant difference between the mean ratings of male and female teachers on the percentage of teachers in public secondary schools within Wukari LGA who can operate computer system?
3. There is no significant difference between the mean ratings of male and female teachers on the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari LGA.

METHODOLOGY

Design

Descriptive survey research design was adopted in this study. The choice of this research design was considered appropriate because of its advantages of identifying attributes of a large population from a group of individuals. The design was suitable for the study as the study examined the teachers' ICT skills and utilization of ICT materials for instructional delivery in public secondary school in Wukari LGA, Taraba State.

Area of the study

This study was conducted in Wukari LGA. Wukari is in the Southern Senatorial District of Taraba State, Nigeria.

Population and Sample

The population of this study comprised of all the twenty (20) public secondary schools making up of 3,523 teachers in Wukari Local Government Area, Taraba State. A simple random sampling technique was used to select a sample size of 360 public senior secondary school teachers using Taro-Yamane statistical formula. This number was selected out of the total population in the entire study area. The study was conducted in Wukari Local Government Area of Taraba State.

Instrument for Data Collection

The major research instrument used for data collection is the questionnaires titled Teachers' ICT Skills and Utilization of ICT Materials for Instructional Delivery in Public Senior Secondary School Questionnaire (TICTSUICTMIDPSSSQ). The instrument consists of section A and B. Section A sought information on the bio data of the respondents (Teachers) while section B contains twenty-five (25) questionnaire items stated in four Likert scale of strongly agree (SA) = 4, agree(A)=3, disagree (D)=2 and strongly disagree (SD)=1**.**

To ascertain the face and content validity of the instrument, copies of the test instruments were given to two experts in Measurement and Evaluation, and Mathematics respectively. The instrument was assessed by the experts to ensure the coverage of the stated area. The instrument was validated alongside the objectives, research questions and hypotheses of the study. The necessary corrections made by the experts were effected before carrying out the experimental treatments on the teachers. A test-re-test method was adopted to assess the reliability of the instrument. The reliability coefficient of 0.86 was derived using Cronbach alpha reliability statistics and regarded to be adequate and acceptable for the study.

Procedure for Data Collection

The researchers collected the data by distributing the questionnaire to the participants in the sampled schools. Out of the total number of the copies of the questionnaires distributed, 340 were retrieved and thus, form the basis for the analysis.

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Method (s) of Data Analysis

Mean (x) and standard Deviation (SD) were used to answer the research questions while independent t-test statistical tool was used to test the research hypotheses at 0.05 level of significance.

RESULTS

Research Question 1: To what extent do public secondary school teachers' access to ICT materials enhance instructional delivery in Wukari?

Table 1: Mean ratings of respondents on the extent public secondary school teachers' access to ICT materials enhance instructional delivery

	N=340	Mean $\bar{X}$	Std	Dec
Teacher's access to computers enhances instructional delivery.		3.64	.78	SA
Teacher's access to electronic smart boards enhances instructional delivery.		3.71	.71	SA
Teacher's access to e-learning platforms enhances instructional delivery.		3.85	.37	SA
Teacher's access to projectors enhances instructional delivery.		3.66	.78	SA
Teacher's access to video conferencing tools enhances instructional delivery.		3.83	.46	SA
Grand Mean		**3.74**	**0.62**	**SA**

$\bar{X}$ = Mean; Std= Standard Deviation; Dec = Decision. SA=Strongly Agree, A=Agree, D=Disagree and SD=Strongly Disagree; N=No. of Respondents.

Table 1 showed the mean ratings of respondents on the extent public secondary school teachers' access to ICT materials enhance instructional delivery. Item 1 had a mean and standard deviation score of 3.64 and .78 respectively. This means that the respondents strongly agreed to the view that teacher's access to computer enhances instructional delivery. Item 2 had a mean and standard deviation score of 3.71 and .71 respectively. This means that the respondents strongly agreed to the view that teacher's access to electronic smart boards enhances instructional delivery. Item 3 had a mean and standard deviation score of 3.85 and .37 respectively. This means that the respondents strongly agreed to the view that teacher's access to e-learning platforms enhances instructional delivery. Item 4 had a mean and standard deviation score of 3.66 and .78 respectively. This means that the respondents strongly agreed to the view that teacher's access to projectors enhances instructional delivery. Item 5 had a mean and standard deviation score of 3.83 and .46 respectively. This means that the respondents strongly agreed to the view that teacher's access to video conferencing tools enhances instructional delivery. The grand mean and standard deviation scores of 3.74 and .62, this implies that in the opinion of the respondents, to a very high extent teachers' access to computer enhance instructional delivery in public secondary schools in Wukari.

Research Question 2: What is the percentage of teachers in public secondary schools within Wukari who can operate a computer system?

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Table 2: Mean ratings of respondents the percentage of teachers in public secondary schools within Wukari who can operate a computer system

	N=340	Mean $\bar{X}$	Std	Dec
20% of teachers in public secondary schools in Wukari can operate a computer system.		3.57	.56	SA
40% of teachers in public secondary schools in Wukari can operate a computer system.		3.61	.51	SA
60% of teachers in public secondary schools in Wukari can operate a computer system.		3.90	.49	SA
70% of teachers in public secondary schools in Wukari can operate a computer system.		3.95	.40	SA
100% of teachers in public secondary schools in Wukari can operate a computer system.		3.96	.37	SA
Grand Mean		**3.80**	**0.46**	**SA**

$\bar{X}$= Mean; Std= Standard Deviation; Dec = Decision. SA=Strongly Agree, A=Agree, D=Disagree and SD=Strongly Disagree; N=No. of Respondents.

Table 2 showed the mean ratings of respondents on the percentage of teachers in public secondary schools within Wukari who can operate a computer system. Item 1 had a mean and standard deviation score of 3.57 and .76 respectively. This means that the respondents strongly agreed to the view that 20% of teachers in public secondary schools in Wukari can operate a computer system. Item 2 had a mean and standard deviation score of 3.61 and .51 respectively. This means that the respondents strongly agreed to the view that 40% of teachers in public secondary schools in Wukari can operate a computer system. Item 3 had a mean and standard deviation score of 3.90 and .49 respectively. This means that the respondents strongly agreed to the view that 60% of teachers in public secondary schools in Wukari can operate a computer system. Item 4 had a mean and standard deviation score of 3.95 and .40 respectively. This means that the respondents strongly agreed to the view that 70% of teachers in public secondary schools in Wukari can operate computer system. Item 5 had a mean and standard deviation score of 3.96 and .37 respectively. This means that the respondents strongly agreed to the view that 100% of teachers in public secondary schools in Wukari can operate a computer system. The grand mean and standard deviation scores of 3.80 and .46, this implies that in the opinion of the respondents, 80% of teachers in public secondary schools in Wukari can operate a computer system.

Research Question 3: What is the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari?

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Table 3: Mean ratings of respondents on the current level of ICT utilization among teachers for instructional delivery in public secondary schools

	N=340	Mean $\bar{X}$	Std	Dec
Teachers are at the novice level of ICT utilization during instructional delivery in public secondary schools in Wukari.		3.22	.94	A
Teachers are at the intermediate level of ICT utilization during instructional delivery in public secondary schools in Wukari.		3.65	.79	SA
Teachers are at the advanced level of ICT utilization during instructional delivery in public secondary schools in Wukari.		3.90	.40	SA
Teachers are at the expert level of ICT utilization during instructional delivery in public secondary schools in Wukari.		3.71	.71	SA
Teachers are at the master level of ICT utilization during instructional delivery in public secondary schools in Wukari.		3.67	.61	SA
Grand Mean		**3.63**	**0.69**	**SA**

$\bar{X}$= Mean; Std= Standard Deviation; Dec = Decision. SA=Strongly Agree, A=Agree, D=Disagree and SD=Strongly Disagree; N=No. of Respondents

Table 3 showed the mean ratings of respondents on the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari. Item 1 had a mean and standard deviation score of 3.22 and .94 respectively. This means that the respondents agreed to the view that teachers are at the novice level of ICT utilization during instructional delivery in public secondary schools in Wukari. Item 2 had a mean and standard deviation score of 3.65 and .79 respectively. This means that the respondents strongly agreed to the view that teachers are at the intermediate level of ICT utilization during instructional delivery in public secondary schools in Wukari. Item 3 had a mean and standard deviation score of 3.90 and .40 respectively. This means that the respondents strongly agreed to the view that teachers are at the advanced level of ICT utilization during instructional delivery in public secondary schools in Wukari. Item 4 had a mean and standard deviation score of 3.71 and .71 respectively. This means that the respondents strongly agreed to the view that teachers are at the expert level of ICT utilization during instructional delivery in public secondary schools in Wukari. Item 5 had a mean and standard deviation score of 3.67 and .61 respectively. This means that the respondents strongly agreed to the view that teachers are at the master level of ICT utilization during instructional delivery in public secondary schools in Wukari. The grand mean and standard deviation scores of 3.63 sand .69, this implies that in the opinion of the respondents, teachers are at the advanced level of ICT utilization during instructional delivery in public secondary schools in Wukari.

HYPOTHESES

Hypothesis 1: There is no significant difference between the mean ratings of male and female teachers on the extent teacher's access to ICT materials enhances instructional delivery in public secondary schools within Wukari.

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Table 4: Summary of t-test analysis result on the significant difference between male and female teachers on the extent teacher's access to ICT materials enhances instructional delivery in public secondary schools within Wukari

Teachers	N	$\bar{X}$	Std.	*df*	Sig. 2-(tailed)	*t*	Decision
Male	200	18.04	2.94				
				338	.330	0.05	No Significant Difference
Female	140	19.65	2.68				

P-Value at 0.05 level of Significance

Table 4 showed the summary of *t*-test analysis result of male and female teachers on the extent teacher's access to ICT materials enhances instructional delivery in public secondary schools within Wukari. It indicates that the Sig. (2-tailed) of (.330) is greater than (>) p-value of 0.05 at df 338. The null hypothesis was therefore accepted. This implies that there is no significant difference in the mean ratings of male and female teachers on the extent teacher's access to ICT materials enhances instructional delivery in public secondary schools within Wukari.

Hypothesis 2: There is no significant difference between the mean ratings of male and female teachers on the percentage of teachers who can operate a computer system within Wukari.

Table 5: Summary of *t*-test analysis result on the significant difference between male and female teachers on the percentage of teachers who can operate a computer system within Wukari

Teachers	N	$\bar{X}$	Std.	*df*	Sig. 2-(tailed)	*t*	Decision
Male	200	17.79	3.09				
				388	.450	0.05	No Significant Difference
Female	140	18.82	2.99				

***P*-Value at 0.05 level of Significance**

Table 7 showed the summary of *t*-test analysis result of male and female teachers on the percentage of teachers who can operate a computer system within Wukari. It indicates that the Sig. (2-tailed) of (.450) is greater than (>) p-value of 0.05 at df 338. The null hypothesis was therefore accepted. Therefore, it is concluded that there is no significant difference in the mean ratings of male and female teachers on the percentage of teachers who can operate a computer system within Wukari.

Hypothesis 6: There is no significant difference between the mean ratings of male and female teachers on the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari.

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Table 6: Summary of *t*-test analysis result on the significant difference between male and female teachers on the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari.

Teachers	N	$\bar{X}$	Std.	df	Sig. 2-(tailed)	T	Decision
Male	200	16.87	2.28	338	.050	0.05	No Significant Difference
Female	140	17.97	2.24				

P-Value at 0.05 level of Significance

Table 6 showed the summary of *t*-test analysis result of male and female teachers on the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari. It indicates that the Sig. (2-tailed) of (.050) is greater than (>) p-value of 0.05 at df 338. The null hypothesis was therefore accepted. This implies that there is no significant difference in the mean ratings of male and female teachers on the current level of ICT utilization among teachers for instructional delivery in public secondary schools in Wukari. s

DISCUSSIONS

The findings of the study revealed that to a very high extent teachers' access to computer enhance instructional delivery in public secondary schools in Wukari. The respondents agreed that; Teacher's access to computers enhances instructional delivery, teacher's access to electronic smart boards enhances instructional delivery, teacher's access to e-learning platforms enhances instructional delivery, teacher's access to projectors enhances instructional delivery and teacher's access to video conferencing tools enhances instructional delivery.

The findings also revealed that, there was no significant difference between the mean ratings of male and female teachers on the extent teachers' access to computer enhance instructional delivery in public secondary schools in Wukari. Mandah (2016), states that with ICT, teachers can tailor instruction to individual student needs, providing adaptive learning experiences and targeted interventions to address different learning paces and preferences This finding is supported by Yusuf, (2014), who opined that teachers having access to ICT materials can enhance instructional delivery by providing diverse learning resources, fostering interactive teaching methods, promoting self-directed learning and preparing students for the digital age. Therefore, teacher's access to ICT materials enhances instructional delivery in public secondary schools within Wukari.

This conclusion is in line with the findings of Henry (2018), and Yusuf (2005), which suggest that a high percentage of teachers proficient in operating computer systems brings several advantages including improved instructional quality through digital resources, enhanced communication between teachers and students, streamlined administrative tasks and better preparation of students for the demands of a technologically advanced society. For that reason, a high percentage of teachers who can operate a computer system enhance instructional delivery in public secondary schools within Wukari.

The findings also showed that, there was no significant difference between the mean ratings of male and female teachers on the extent teachers' access to computer enhance instructional delivery in public secondary schools in Wukari. This finding is supported by Achuonye, (2014), who opines that teachers having access to ICT materials can enhance instructional delivery by providing diverse learning resources, fostering interactive teaching methods, promoting self-directed learning and preparing students for the digital age. Ziden (2011), affirms that teachers can access a wide range of multimedia

materials, interactive simulations and online resources, enriching their instructional content and catering to various learning styles. Gates (2016), enunciates that ICT materials enable teachers to incorporate interactive and dynamic teaching methods, fostering student engagement through multimedia presentations, collaborative projects and online discussions. Mandah (2016), states that with ICT, teachers can tailor instruction to individual student needs, providing adaptive learning experiences and targeted interventions to address different learning paces and preferences.

The findings of the study revealed the percentage of teachers in public secondary schools within the Wukari who can operate a computer system. The respondents agreed that; 70% of teachers in public secondary schools in Wukari can operate a computer system. Teachers proficient in computer operation can leverage technology to enhance instructional delivery. They can use multimedia resources, online tools and educational software to create more engaging and interactive lessons. The use of computer systems allows for diverse teaching methods, catering to various learning styles. This can lead to increased student engagement as lessons become more dynamic and aligned with contemporary educational practices. Equipping teachers with computer skills prepare students for the digital age.

The findings also showed that; there was no significant difference between the mean ratings of male and female teachers on the percentage of teachers in public secondary schools within the Wukari who can operate a computer system. Yusuf (2005), suggest that a high percentage of teacher's proficient in operating computer systems brings several advantages including improved instructional quality through digital resources, enhanced communication between teachers and students, streamlined administrative tasks and better preparation of students for the demands of a technologically advanced society. Andreas and Henry (2018), postulates that teachers with computer skills can collaborate more effectively with colleagues, sharing resources, collaborating on projects and participating in professional development opportunities facilitated through digital platforms.

The findings of the study showed the level of ICT utilization among teachers for instructional delivery in public secondary schools in the Port Harcourt metropolis. The respondents agreed that; Teachers are at the advanced level of ICT utilization during instructional delivery in public secondary schools in Wukari, advanced ICT skills enable teachers to employ innovative and cutting-edge teaching methods. They can integrate advanced software, simulations and interactive tools into their lessons, creating a more dynamic and effective learning environment. Teachers with advanced ICT skills can tailor instructional content to individual student's needs. This personalization enhances the learning experience, accommodating diverse learning styles and paces.

The findings also showed that; there was no significant difference between the mean ratings of male and female teachers on the level of ICT utilization among teachers for instructional delivery in public secondary schools in the Wukari. This finding is supported by Kadel, (2015), who opine that an advanced level of ICT utilization among teachers in public secondary schools can lead to more engaging and interactive lessons, personalized learning experiences, improved access to up-to-date information, enhanced collaboration among educators and better preparation for students for the digital era, ultimately contributing to the overall quality of education.

This finding is supported by Kadel, (2015), who opine that an advanced level of ICT utilization among teachers in public secondary schools can lead to more engaging and interactive lessons, personalized learning experiences, improved access to up-to-date information, enhanced collaboration among educators and better preparation for students for the digital era, ultimately contributing to the overall quality of education. Therefore, teacher's level of

ICT utilization enhances instructional delivery in public secondary schools within Wukari.

CONCLUSION

The study investigated Teachers' ICTs Skills and Utilization of ICT Materials for Instructional Delivery in Public Secondary Schools in Wukari. From the data analyses and findings the study concluded that; To a very high extent teachers' access to computer enhance instructional delivery, 70% of teachers in public secondary schools in Wukari can operate computer system, teachers are at the advanced level of ICT utilization during instructional delivery in public secondary schools in Wukari, the listed items identified in research question 2 are the factors that contribute to the underutilization of ICT materials for instructional delivery in public secondary schools within Wukari and listed items identified in research question 3 are strategies that can be proposed to enhance teachers' ICT skills for instructional delivery in public secondary schools in Wukari. Proficient use of ICT enhances teaching methods, engages students and facilitates a more interactive learning environment. Teachers equipped with the necessary skills can leverage ICT tools to cater to diverse learning styles, making education more accessible and relevant.

RECOMMENDATIONS

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

1. Government should implement more thorough ICT training programs for teachers in Wukari to enhance their skills in utilizing digital tools effectively.
2. Government should ensure that schools have the necessary ICT infrastructure, including reliable internet access, computers, and software to support effective utilization by teachers.
3. Government should provide financial incentives for teachers who complete advanced ICT training programs.

Conflicts of interest

The authors declare no conflicts of interest

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Disclaimer Statement

This research is an original work carried out by Ekunke, Thomas Odo and Adewumi, Blessing Inama and it is not for any institutions of learning.

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Authorship and Level of Contribution

Ekunke, Thomas Odo is the leading author. He initiated the idea and drafted the background, statement of the problem, aim and objectives, research questions and hypotheses, and the methodology while **Adewumi, Blessing Inama** is the co-author. She collected the data, analyzed it, interpreted it and discussed the findings.

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