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ICT-Based Literacy Evaluation in Nigeria Educational Sector: Case Study in Kwara State

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ABSTRACTS

ICT is now a necessity for both professionals and organizations due to its pervasiveness across all fields of human endeavour. The literacy skills level plays a major role in its application for routine responsibilities and the pace at which task is complemented. For efficient service delivery in the public service, this study evaluated the ICT literacy abilities and their application among the staff of education agencies. It used a descriptive cross-sectional survey design. Structured items on the ICT skills assessment and utilization questionnaire (ICTSAUQ) were administered to fifty staff using convenient sampling techniques. To respond to the research questions posed by this study, descriptive and inferential statistics were used. The question was addressed using percentage means and standard deviations, and the questions were analysed using a t-test. The results showed that having a basic understanding of ICT helps do administrative tasks daily. However, the staff of the education agencies lacked the necessities for their daily routine of managerial responsibilities and operations. Hence, it was suggested that staff of the Education Agencies in Kwara State must be exposed to the required ICT skills to perform the routine functions at the optimal level. Additionally, it was suggested that agency staff members be encouraged to consistently improve their ICT literacy abilities through self-training and group work to improve the competence of service delivery in the educational sector.

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1. INTRODUCTION

The level of literacy needed to operate computers and other related technologies effectively is known as information and communication technology (ICT) ability (Ukachi, 2015). A grasp of how to use common software systems and platforms and a practical knowledge of computer programming and its applications could be on the skill spectrum (Alemu, 2015). The use of ICT in educational practice is widely regarded as an empowering tool that encourages change and stimulates the development of 21st-century skills (Bolaji & Adeoye, 2022). Currently, the pervasiveness of ICT in every sphere of human endeavour cannot be over-emphasized, and education is also experiencing the feeling of it in its routine activities and practices. This requires some level of literacy skill in the use of ICT to perform one function or the other among educational administrators. The most crucial worldwide resource for self-actualization is ICT with its corresponding literacy skills (Olatoye, 2019). ICT as a form of technological development can improve economic prospects, and enhance governance and service delivery for the socio-economic development of a society (Ogwu & Ogwu, 2015). It is on this premise that Emwanta (2013) advised that ICT literacy skills and abilities should be acquired to maximize its potential for educational practices (Emwanta, 2013). The advent of numerous ICT tools has resulted in significant changes in the educational system around the world. The provision of these amenities by government agencies in the workplace has been shown to improve service delivery efficiency (Adeleke, 2016) and should be sustained with friendly ICT policies.

The Federal Government of Nigeria created an ICT policy in 2001 after considering its advantages and the National Information Technology Development Agency (NITDA) was founded as a result of the policy in which its goal includes ensuring that ICT resources are easily accessible to support effective national development and integrate it into the civil service, notably the education sector (NITDA, 2017). Furthermore, Emwanta (2013) posited that policy is a vital instrument for the promotion and sustenance of national development (Emwanta, 2013). Education policy is well recognized for its ability to transmit desirable values like work ethics, loyalty, integrity and justice; all of which are necessary for individual survival and societal growth. Education could be the most crucial tool for change, and staffs, irrespective of gender are the driving force behind it.

The gender of an individual always plays a moderating influence on routine activities, and the use of ICT is not an exception. Gender influences the use of ICT for teaching as revealed in the study conducted by Irfan et al (2014) where it was found that male teachers frequently use ICT in comparison to female colleagues, and it as well extends to creating presentation materials for instructional delivery (Guillen et al., 2019). Important also, it was further revealed that gender didn't have a major influence on the use of ICT for information seeking which is at variance with the initial finding. Therefore, it can be concluded that gender swings its influence on individuality and the responsibilities routinely performed. Gender might not necessarily influence every variable of an individual, and as reported by Egunjobi and Fabunmi

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(2017), a relationship did not exist between competence and gender (Olusegun & Adesoji, 2017). In addition, gender didn't have any moderating influence on the use of ICT for information retrieval and its actual use (Durante, 2013).

The attitude of an individual while using ICT might also not influence routine activities (Adenuga et al., 2011). Whereas it was discovered that gender influences the use of ICT for accessing social networks in females was found to be more prevalent in the use of it for communications (Hilbert, 2011). However, males are found to possess more skills in the use of ICT (Van Dijk, 2015). A further advancement is the ICT literacy level perceived to be higher in female students but does not influence their operational skills over their male counterparts (Zhou et al., 2014).

The primary goal of this research was to examine the degree and scope of ICT literacy use among education agency workers. In particular, the study: evaluated the degree of ICT literacy among Kwara State's educational agency staff. Examined how the staff of education agencies in Kwara State used their knowledge of ICT. Figured out how to get education agencies' workers in Kwara State to become ICT literate. examined the difficulties in teaching ICT literacy to the workers of Kwara State's educational agencies.

The purpose of the study is What is the degree of ICT literacy among Kwara State's educational agency staff? Do the Kwara State employees of education agencies possess ICT literacy skills? How are ICT literacy skills acquired by the Kwara State education agency staff? What are the difficulties that the Kwara State workers of education agencies face while using their ICT literacy skills?

2. METHOD

This study is descriptive of the cross-sectional survey type. The instrument for this study was a researcher-designed questionnaire titled ICT skills assessment and utilization questionnaire (ICTSAUQ) comprising a close-ended questionnaire for the collection of data on the ICT literacy skill and its utilization among the staff of Education Agencies in Kwara State. The sampling technique employed is a non-probability convenient sample and the technique was adopted because the researcher is specific about the participants who are staff working in the agencies relating to education within the civil service.

The agencies randomly selected for this study are the teaching service commission, State Universal Basic Education Board, Scholarship Board and Mass Literacy Agency. Hence, the sample size for this was 50 and 10 of each of the staff were conveniently selected across the education agencies in Kwara State. The questionnaire has three sections of six items each to measure the variables under study. The five–point Likert is considered as an internal scale for all the questions statements. If the mean is from 1 to 1.8 it signifies strongly disagree and for the mean from 1.81 to 2.60, it signifies disagree. Likewise, if the mean is from 2.61 to 3.40 indicate undecided and the mean from 3.41 to 4.20 signifies agree. Also, from 4.21 to 5 the mean is strongly agreed. The questionnaire was validated by three educators comprising an educational technologist, educational manager and computer educator and thereafter subjected to a reliability test using Cronbach Alpha which yielded

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0.87. The responses were collected manually and subjected to both descriptive and inferential statistical analysis. The research questions were answered using mean and standard deviation while the hypothesis was analyzed using a t-test.

3. RESULTS AND DISCUSSION

Across all the education agencies, it is evident that there are more females than males. For instance, the total average of females overall is 60% which translated to 30 out of 50 respondents examined for this study. This implies that females dominated the staff strength of education agencies in Kwara State and it laid the foundation for the need to give gender attention regarding the variables under study (see Tables 1 and 2).

Question 1: What is the level of ICT literacy skills among the staff of Education Agencies in Kwara State?

Table 1. Demographics characteristic of the respondents

MDAs (Ministries, Departments and Agencies)	Male	Female	Total
Teaching Service Commission	6(40%)	9 (60%)	15
State Universal Basic Education Board	5 (33.33%)	10 (66.6%)	15
Scholarship Board	5 (50%)	5 (50%)	10
Mass Literacy Agency	4 (40%)	6 (60%)	10
Total	**20 (40%)**	**30 (60%)**	**50**

Table 2. Mean and standard deviation on ICT literacy skills among staff education agencies

Statements	N	Mean	Std. Deviation
I can create a multimedia presentation (with sound, pictures and video).	50	3.26	1.192
I can copy files from one location into another location.	50	3.42	1.052
I can send and open an attachment from an email, using a computer email program.	50	3.08	1.482
I can use the World Wide Web address to find useful information	50	3.84	0.650
I can use search engines to search for information e.g, Yahoo, Google, and YouTube.	50	3.00	1.262
I can use the Internet and its various features	50	3.86	0.808

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From Table 2, in the first statement, the mean is 3.26. Hence, this shows that the majority of participants cannot decide whether they can create a multimedia presentation (with sound, pictures and video) or not. The means of the second statement is, 3.42; it means that the majority of participants agreed to have the ability to copy files from one location into another location. The means of the third statement is, 3.08; it means that the majority of participants cannot decide whether they can send and open an attachment from an email, using a computer email program or not. The means of the fourth statement is, 3.84; it means that the majority of participants agreed that they can use www address to find useful information. The means of the fifth statement is 3.00, which means that the majority of participants cannot decide whether they can use search engines to search for information e.g, Yahoo, Google, and YouTube or not. The means of the sixth statement is, 3.86; it means that the majority of participants strongly agreed that they can use the internet and its various features (see Table 3).

Question 2: Do the staff of Education Agencies in Kwara State utilize ICT literacy skills?

Table 3 shows that the mean of the first statement is 3.50, this shows that the majority of participants agreed that they can start up and shut down the computer system. The means of the second statement is, 3.66; it means that the majority of participants agreed to have the ability to open, create, edit, backup, save and delete documents or files on the computer. The means of the third statement is, 3.20; it means that the majority of participants cannot decide whether they can copy a file from a floppy disk or flash drive (USB). The means of the fourth statement is, 3.54; it means that the majority of participants agreed that they can use Microsoft word for typing. The means of the fifth statement is, 3.24; it means that the majority of participants cannot decide whether they can use Microsoft Excel for analysis or not. The means of the sixth statement is, 3.40; it means that the majority of participants cannot decide whether they can use Microsoft PowerPoint for presentation (Table 4).

Question 3: How does the Staff of Education Agencies in Kwara State acquire ICT literacy skills

Table 4 indicates that the mean of the first statement is, 2.28; this showing that the majority of participants disagreed with the statement that they went to seminars and conferences. The means of the second statement is, 3.72; it means that the majority of participants agreed to do personal and self-training. The means of the third statement is, 3.24; it means that the majority of participants cannot decide whether they got ICT literacy from colleagues in the office. The means of the fourth statement is 2.30, which means that the majority of participants disagreed that they got ICT literacy skills through government training. The means of the fifth statement is, 3.32; it means that the majority of participants cannot decide whether they acquire ICT literacy skills from in-house training (see Table 5).

Question 4: What are the challenges of literacy skill use of ICT among the staff of Education Agencies in Kwara State?

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Table 3. Mean and standard deviation on the utilization of ICT literacy skills among the staff of the Education Agencies

Statements	N	Mean	Std. Deviation
I can start up and shut down a computer system.	50	3.50	1.568
I can open, create, edit, backup, save and delete documents or files on the computer	50	3.66	1.136
I can copy a file from a floppy disk or flash drive (USB)	50	3.20	1.278
I can use Microsoft word for typing	50	3.54	0.862
I can use Microsoft Excel for analysis	50	3.24	1.519
I can use Microsoft PowerPoint for presentation	50	3.40	0.928

Table 4. Mean and standard deviation on the acquisition of ICT literacy skills

Statements	N	Mean	Std. Deviation
I went to seminars and conferences	50	2.28	1.070
I did personal and self-training	50	3.72	0.834
Through colleagues in the office	50	3.24	0.938
Through government training	50	2.30	1.233
In-house training	50	3.32	1.377

Table 5. Mean and standard deviation on the challenges of ICT literacy skills using

Statements	N	Mean	Std. Deviation
The use of productive e-resources may be constrained by inadequate ICT skills.	50	3.18	1.366
The usage of electronic information resources might be hampered by inadequate ICT literacy abilities.	50	3.32	1.168
Electronic information resources are ineffectively used when ICT skills are lacking.	50	3.76	1.393
The use of e-information resources is hindered by the inability to operate a computer.	50	3.36	1.411
Access to electronic resources might be badly impacted by a lack of computer skills.	50	3.36	1.453

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Table 5 The mean of the first statement is, 3.18; this shows that the majority of participants agreed on the use of productive e-resources may be constrained by inadequate ICT skills. The means of the second statement is, 3.32; it means that the majority of participants agreed on the usage of electronic information resources might be hampered by inadequate ICT literacy abilities. The means of the third statement is, 3.76; it means that the majority of participants agreed that electronic information resources are ineffectively used when ICT skills are lacking. The means of the fourth statement is, 3.36; it means that the majority of participants cannot decide whether the use of e-information resources is hindered by the inability to operate a computer. The means of the fifth statement is, 3.36; it means that the majority of participants cannot decide whether access to electronic resources might be badly impacted by a lack of computer skills.

4. Discussion

The results of table two showed that the analysis of multimedia presentations, search engine usage, and internet usage showed that skills are essential for the efficient use of ICT. This corroborates the finding from Balarabe's (2020) study that pupils have a basic comprehension of ICT capabilities, including competency with MS Word, MS PowerPoint, internet searching, and other related abilities (Yushau, 2020). because it is the driving force behind ICT abilities. The study of table three's data revealed that certain employees have trouble starting up and shutting down computers and are less conversant with presentation-related Microsoft programs like Word, Excel, and PowerPoint. When compared to all respondents, the percentage is minuscule. This could signal that the staff is making progress in their pursuit of ICT and that they recognize the need to continually improve their ICT skills to be able to meet the demands of each cadre for ICT usage. Table 4 results showed how education agencies' staff members develop their ICT skills. They did, however, gain it mainly through personal and self-training. The results of Oluwayemi et al. (2021), who testified that ICT literacy abilities are more often used in training, concurred with this (Olatoye, 2021). The outcome from table five demonstrates that staff members do have difficulties due to a lack of ICT skills and expertise. However, staff members claimed to have trouble using electronic information resources, which may be caused by a lack of ICT literacy. This is to the results of Makori (2016), who asserted that it is dificult to give pupils the ICT skills and resources they need (Makori, 2016).

According to Makhmudov, K., Shorakhmetov, S., & Murodkosimov, A. (2020), not all subject teachers need to be experts at using computers, even if computer literacy is a must. For their teachings to be more effective and to better serve their students, they should possess a certain set of skills. These skills include the following (Makhmudov et al., 2020).

a) The ability to read and write simple computer programs;
b) The ability to use computer programs and documentation that are educational in nature;
c) The ability to use computer terminology, especially as it relates to hardware;
d) The ability to identify educational problems that can and cannot be solved using the computer; e) the

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ability to locate information on computing as it relates to education; and

f) The ability to discuss the moral and human-impact issues.

Koltay (2011) made the case that information literacy is crucial for the growth of democracy, cultural participation, and active civic participation (Koltay, 2011). Knowledge workers who heavily rely on the Internet and computer tools are especially in need of this literacy. Information literacy also places a strong emphasis on the necessity of recovering and careful selection of the information available in the workplace, in education, and in other areas of individual decision-making, particularly in the domains of citizenship and health. Information literacy training places a strong emphasis on the critical thinking, metacognitive, and procedural skills needed to find information in particular fields, settings, and contexts. The acknowledgement of the message of quality, authenticity, and credibility is prioritized (Hobbs, 2006). In a study on how information literacy is seen in educational environments, the workplace, and the community, Lloyd and Williamson (2008) came to the conclusion that the context is a significant component in shaping the phenomena (Lloyd, 2008). Information literacy, according to Catts and Lau (2008), is appropriate in all areas of human development and is defined as the capacity to recognize information needs, evaluate their quality, manage this information, use it effectively, and do so in an ethical manner, in addition to the capacity to produce and share the knowledge attained through the application of information (Catts & Lau, 2008).

There are several common elements among the definitions given, with perhaps the most significant one being the understanding that information skills cannot be seen in isolation since they are interrelated processes that entail how people think about and use information (Eisenberg et al., 2004). Combination of information and computer literacy (ICT literacy) has been explained by OECD (Organisation for Economic Co-operation and Development) and by (Santos et al., 2019). as the interest, attitude and ability of individuals to properly use digital technology and communication tools to access, manage, integrate and evaluate information, construct new knowledge, and communicate with others in order to effectively participate in society as shown in table 5.

5. CONCLUSION

From the findings, ICT utilization is evident in all the departments and Agencies in the Education Ministries of Kwara State. Conclusively, education agency staff possess ICT skills that are useful for their profession through self-training. However, gender has no significant influence on the ICT skills of the staff. The need for effective utilization of ICT devices within the agencies in the state education sector calls for prompt action by all relevant stakeholders to meet the present global technology challenges. Hence the need to tackle ICT deficiency among the staff of the agencies require essential attention. Government should ensure that staff development and ICT utilization should be prioritized and funds should be duly allocated for it in the education sector.

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