A Quantitative Analysis of the Influence of Information Communication Technology (ICT) Revolution on Student Learning Experiences in Nasarawa State, Nigeria

Victoria Oluwayomi, FALUYI[1], Blessing Oluwadunsin, FALUYI[2]
[1]Federal University of Lafia, Nigeria, victoriafaluyiod@gmail.com
[2]Osun State University, Nigeria, blessingfaluyi070@gmail.com

ABSTRACT

With the rapid integration of Information and Communication Technology into various sectors globally, including education, there have been profound interconnections enhancing digital transformation. The growth of ICT in Nigeria has been rapid, necessitating a study of its impact on education in the country. This research explores the transformative impact of ICT in Nasarawa State with a specific focus on secondary schools in six local governments: Akwanga, Doma, Keffi, Lafia, Nasarawa Eggon, and Wamba. A quantitative descriptive research design was employed to gather data that was analyzed to reach a coherent conclusion. Questionnaires were provided to 680 students selected randomly from several secondary schools in the six local governments. Statistical analysis was conducted using one-way ANOVA and Tukey tests. The study investigates the ICT proficiency level of students, categorizing their proficiency levels and examining its effects on academic performance. The data analysis reveals that students in Lafia have the highest ICT proficiency 65%, followed closely by Keffi and Akwanga at 63% and 58% respectively. Conversely, Doma exhibits the lowest proficiency, with only 46%. The results indicate a general rate of ICT illiteracy among the students in these local governments due to a lack of ICT infrastructures and gadgets. Additionally, it reveals that ICT gadgets are primarily used for entertainment purposes rather than educational purposes by the students in these local governments due to the low incorporation of ICT in their education curriculum. The study concludes by emphasizing the critical role of ICT in education and the need for increased investment in ICT infrastructure and training to bridge proficiency gaps and promote a technologically adept student population across Nasarawa State and Nigeria as a whole.

Key words: Information Communication Technology (ICT), Nigeria, Nasarawa State, digital transformation, internet, education, student learning experiences.

1. INTRODUCTION

In the 21st century, Information, and Communication Technology (ICT) has demonstrated its significant role across various sectors globally, including business, politics, communication, religion, economics, social dynamics, and education. Akwu et al., (2021) noted that ICT has seamlessly integrated into numerous human activities successfully making the world experience deep interconnection, dissolution of boundaries and mutual reliance. This has led to great digital transformation in countries like Nigeria [1], [2], [3] where there has been a rapid proliferation of ICT in various levels of education, with substantial investments towards the inauguration of ICT gadgets into various education facets [4], [5]. For many years, education has mainly involved interactions between teachers and students using boards, writing materials (books and pencils), and teaching materials (chalk, markers, textbooks, and cardboard for display). With the rapid development of ICT, education has welcomed several other learning materials including electronics and the internet, which have drastically shaped education at all levels [6]. Now, learning is no longer restricted to classroom interactions but can be extended to e-learning, and online classes, and can be taken anywhere outside the school environment.

Most education experts agree that the prospective significance of the ICT revolution in education includes enhancing students' problem-solving abilities, logical reasoning skills, creative thinking, and systematic experimentation [7]. However, this can only be possible if there is wide availability of these technology gadgets to the students in developing countries [8].

Education has been noted to be a crucial sector and a measure of development in most countries since it is a tool that directly impacts the economic and social aspects of a nation. This explains why most countries allocate major investments to the education sector at both micro and macro levels [9]. Nigeria, renowned as the "Giant of Africa" due to its size, population, and abundant resources, has been recorded to have constant fluctuations in the standard of education at all levels. This can be largely attributed to Nigeria's focus on maintaining a costly government structure rather than implementing measures to ensure high-quality education [10].

Since ICT was first introduced in Nigeria in 1963, it sporadically proliferated into several sectors in the Nigerian economy, from communication, and media, to politics [11]. ICT was initially used for broadcasting news, disseminating

information, and providing entertainment through basic technologies like radio and telecommunications. This grew rapidly to the use of more sophisticated tools like mobile phones, television, computers, internet. The introduction of ICT applications, Blackberry Messenger, Facebook, YouTube, Twitter, Instagram, Google, and e-news channels further made its use prevalent [12]. As of January 2023, it was recorded that over 122.5 million Nigerians, 55.4% of the total population, are internet users [13]. This ICT sporadic growth is measured by the access to the internet as shown in Figure 1 [14].
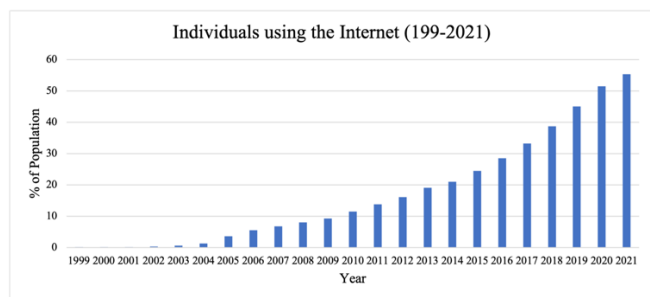

Figure 1: Nigerians using the Internet (1999-2021) (Source: World Bank, 2024)

In 1988, educational policies were created to introduce ICT into the educational sector, however, in 2001, the Nigerian National Policy for Information Technology observed that these policies lacked the capacity to significantly enhance the Nigerian educational system as they were focused on market-driven goals rather than prioritizing its integration into classroom teaching and learning [15]. Iloanusi and Osuagwu (2009) stated that by 2009, approximately 90% of Nigerian educational institutions were categorized as in the emerging phase of ICT with limited usage in teaching and learning, while 7% are in the applying phase, and only 3% have reached the infusing and transforming phase [16]. Thomas and Abanikannda (2023) explained that the emerging phase includes the introduction of innovative technologies, such as computers, mobile devices, and virtual classrooms, into the education system [17]. Joshua and Cobbinah (2021) analysis indicates that till recently, ICT in Nigeria's educational sector has witnessed little progress and still lacks comprehensive integration into the educational practices [18].

Several studies have examined ICT in higher educational institutions. Gombe et al., (2016) evaluation of ICT usage levels among lecturers in North-western Nigerian federal universities revealed that there was some level of knowledge about the usage of ICT facilities, however, this is adequately integrated into the teaching and learning process with effectiveness and efficiency [19]. Imam and Itodo (2020) analyzed the influence of ICT on education in Borno and discovered that 74 out of 120 participants noted that there were no ICT facilities in their schools, therefore ICT tools were not used in their lectures [20]. Onojah et al (2020) discovered that there was a significant difference in the use of mobile technologies based on the area of specialization of postgraduate students in the Southwestern part of Nigeria [21]. Other research studies on ICT in secondary schools, however, most focus on the teachers. Abudu et al., (2020) researched the ICT

facilities used in the teaching of oral English in secondary schools, it was found that most teachers, irrespective of their gender, experience or the type of school, lacked sufficient understanding of how ICT facilities are relevant to their teaching and experience [22]. Moreover, Udofot et al (2020) findings revealed that there is a significant positive impact of ICT on school administration in federal government secondary schools in Nigeria. They also found that ICT has a significant effect on student personnel and student-related task management within the school environment. Additionally, they highlighted that the use of ICT tools and systems also exerts a significant effect on the school's financial management by adequate record keeping, thereby enhancing transparency, efficiency, and accuracy in financial management practices [23]. However, a comprehensive study on the usage of ICT tools by students at secondary schools for educational purposes remains, especially in Northern Nigeria, and is still missing in the literature.

The main objective of this study is to investigate the influence of ICT on student learning experiences in Nasarawa State schools.

RESEARCH QUESTIONS

1. What is the current phase of ICT usage in secondary schools across the six local governments in Nasarawa State?
2. How different is ICT usage among the six local governments in Nasarawa State studied in this research?
3. How does ICT usage influence students' learning experiences in this state?
4. Is there any difference in the usage of ICT gadgets for various purposes?

2. METHODOLOGY

2.1 Location

The study was carried out in Nasarawa State, North-central region of Nigeria, with coordinates 8°32'20.22" N and 7°42'29.56" E. The area of study has thirteen local governments of which six local government areas, Keffi, Akwanga, Lafia, Wamba, Nasarawa Eggon, and Doma were studied as shown in Figure 2 below. About two schools were studied in each local government sampled. These local governments have both private and public secondary schools.
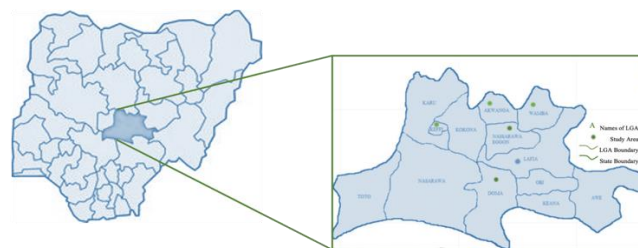

Figure 2: Study area in Nasarawa State located on Nigeria's map [24], [25].

2.2 Design

This study utilized a quantitative descriptive research design employing a cross-sectional survey approach. This is aimed at describing the behaviors and attitudes of the students towards ICT through numerical data and statistical analysis.

2.3 Sample Collection and Size

The study targets students in selected secondary schools in six local government areas located in Nasarawa State, Nigeria. Due to strict regulations of some private schools, the researchers could not reach the students, preventing the distribution of questionnaires. Nevertheless, the researches ensured that a significant number of schools were adequately covered in the study. A total of 680 secondary school students were sampled using stratified sampling techniques from schools selected across these local government areas. Figure 3 represents the sample percentage of the sample size selected from each local government. Table 1 shows the distribution of the students studied in this research.
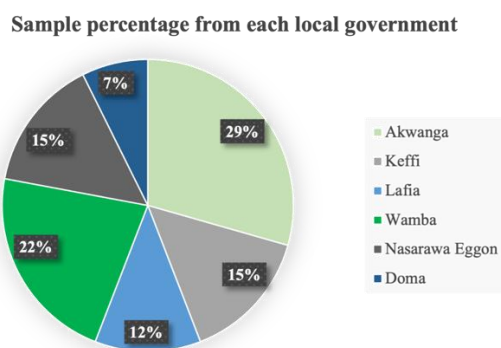

Figure 3: Sample size from each local government.

Table 1: Characteristics of research participants

Local government	Gender			Class			Age	
	Male	**Female**	**Prefer not to say**	**SSS 1**	**SSS 2**	**SSS 3**	**10 - 15**	**<16 -20**
Akwanga	109	88	3	81	31	28	92	48
Doma	23	27	0	0	34	16	23	27
Keffi	68	32	0	43	25	32	51	59
Lafia	45	35	0	28	42	10	36	44
Nasarawa Eggon	47	53	0	26	30	44	32	68
Wamba	88	61	1	66	54	44	63	87

2.4 Procedure

Researchers designed and developed questionnaires and conducted observations to collect information from the students in these schools. The researchers explained the objectives of this research, highlighting the significance of their contribution to the research and emphasized the importance of providing accurate and honest information to ensure the reliability and validity of the study's findings. Participants were assured that the research adhered to all research ethical standards, including

obtaining their consent and guaranteeing confidentiality throughout the research process. Participation was entirely voluntary, and students who were not willing to join the study were advised not to begin the process. Furthermore, a feedback mechanism was established to allow participants to report any issues they encountered during the process.

Observation of the classrooms, computer rooms and teaching techniques was conducted by the researcher to ascertain the prevalence of ICT use in the classrooms.

2.5 Data Analysis

One-way analysis of Variance (ANOVA) at 0.05 alpha level and Tukey tests were used to analyze the data using Minitab.

3. RESULTS

A total of 750 questionnaires were designed and distributed to the secondary school students, and 680 copies were properly completed and returned. The questionnaire answers provided were rated thus: Section A: Poor = 1, Fair = 2, Good = 3, Very good = 4, and Excellent = 5; Section B: Never = 1, Rarely = 2, Sometimes = 3, Frequently = 4, and Always = 5. The mean for each response was calculated and recorded. The benchmark for each question was recorded as 2.50. The results of this study are analyzed below.

3.1 Research Question 1: What phase of ICT usage are secondary schools in the six local governments in Nasarawa State-Akwanga, Doma, Keffi, Lafia, Nasarawa Eggon, and Wamba-currently in?

Based on Iloanusi and Osuagwu (2009), ICT usage in Nigeria was divided into four phases, emerging, applying, infusing, and transforming phases. This research question was answered by analyzing the responses of the students to questions that reflect the several phases discussed by Illoanus and Osuagwu (2009). These results are discussed below.

Table 2 displays the ICT proficiency levels of secondary school students across the six local governments. 'Excellent' indicates that a student can independently utilize ICT gadgets for educational and other purposes, while 'Poor' signifies that a student is unable to perform basic tasks on any ICT device without assistance. In Akwanga, Keffi, and Lafia, a significant majority, 58%, 63%, and 65%, respectively, of students have an ICT experience rated above fair which is above the benchmark of 50%. Lafia leads with the highest percentage of students above the benchmark at 65%, with 21% rating their ICT experience as excellent, 24% as very good, and 20% as good. Doma exhibited a lower overall ICT experience, with only 36% of students rated above the benchmark. A notable 36% of students in Doma fell into the poor category and 28% in the fair category reflecting a need for improvement in ICT training and resources in these areas. Other local governments show varying levels of ICT proficiency, Nasarawa Eggon, 57% of students rated above fair, and Wamba has 56% of students. The results highlight significant disparities in ICT experience across the local governments. Students in Lafia, Akwanga, and

Keffi exhibit strong ICT proficiency, with percentages above the benchmark. However, Doma shows the lowest ICT experience levels.

Table 2: Levels of ICT proficiency among secondary school students acrocss six local governments

	Rate of ICT experience					
Local government	Poor	Fair	Good	Very Good	Excellent	% Above benchmark
Akwanga	21%	20%	31%	19%	9%	58%
Doma	36%	28%	20%	12%	2%	36%
Keffi	18%	19%	23%	22%	18%	63%
Lafia	19%	16%	20%	24%	21%	65%
Nasarawa Eggon	23%	20%	27%	18%	12%	57%
Wamba	20%	24%	27%	26%	3%	56%

Figure 4 shows what ICT gadgets the students are exposed to. The questionnaire asked about their exposure to the two basic ICT gadgets, smartphones and computers, the result showed that there is general accessibility to a smartphone as the mean score for each local government was above the benchmark, 2.5. The figure showed that students in Lafia local government have the highest exposure to smartphones. Keffi, Akwanga, and Doma have similar access to smartphones. However, students in these local governments have less accessibility to computers or laptops. Lafia, Keffi and Akwanga students' access to computers and laptops is above the benchmark, but students in Doma, Nasarawa Eggon, and Wamba's mean response is below the benchmark.
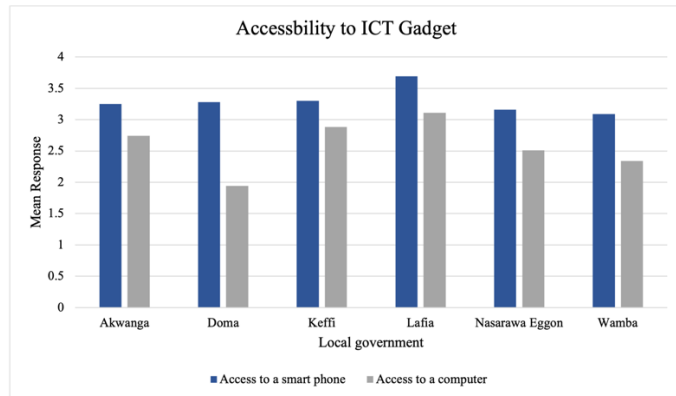

Figure 4: Students' accessibility to basic ICT gadgets (smartphone and computer) across the six local governments.

Figures 5a and 5b show several ways students access these ICT gadgets. According to the observation by the researchers, some schools in Nasarawa Eggon and Lafia local governments have computer laboratories. Entry into these computer laboratories and use of these computers are strictly under teachers' supervision and are only used during some computer classes in each academic session. Figure 5a shows that most of the students access smartphones via their parents and relatives across the six local governments. Personal ownership of phones among students is relatively high in some local governments such as Lafia (30%), Keffi (28%), and Akwanga (22%). This suggests that economic or other barriers may limit phone ownership in certain areas. The percentage of students that have no access to smartphones was highest in Doma and

Wamba local governments with 26% each, while Nasarawa and Wamba were on average with 18% and 17%. Access to phones via parents is relatively high in these areas with percentages ranging from 35% in Keffi to 51% in Nasarawa.

Figure 5b presents the accessibility of computers and laptops to students across the six local governments. A significant portion of students have no access to computers and laptops with percentages ranging from 29% in Lafia to 59% in Doma. Doma heightened that a substantial number of students, more than half, lack computer and laptop access entirely, followed by Wamba with 44%. The percentage of students who own their laptops is generally low across all the local governments, with Doma and Wamba at the lower end with 4% and 2% respectively, and Lafia at the higher end with 11%. This suggests that personal ownership of laptops and computers among students is not widespread. Parents are primary sources of computer access for students with percentages ranging from 18% in Doma to 29% in Akwanga, other sources include relatives and friends.

This data reveals diverse sources of ICT gadgets to the students. While high percentages of students had no access to laptops and computers, particularly in Doma and Wamba, there are diverse patterns of phone accessibility among students.
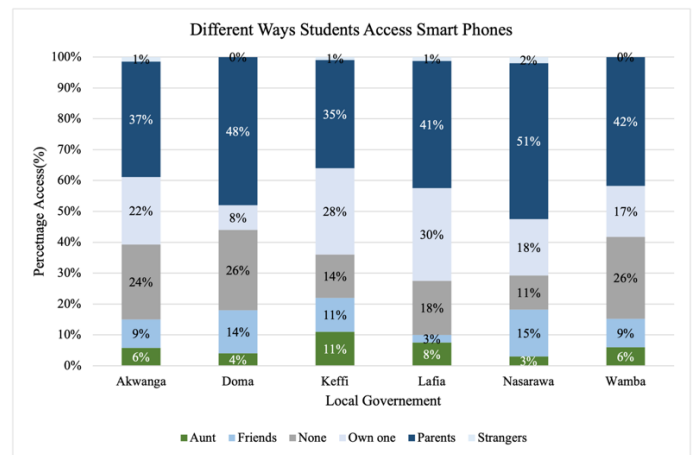

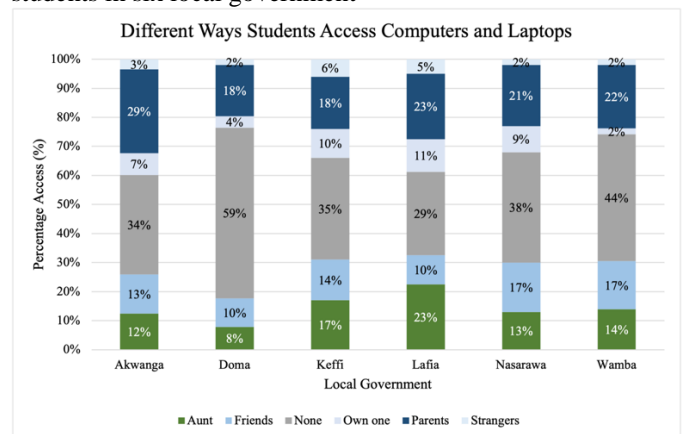**Figure 5a:** Various methods of smartphones access among students in six local government

Figure 5b: Various methods of laptops and computer access among students in six local governemnts

The next set of questions enquires about the exposure of the students to ICT for educational purposes. As shown in Table 3, students in Keffi, 2.84, and Lafia, 2.48 showed the highest frequency of internet access while Doma, 0.94 and Wamba, 1.07, have the lowest means, indicating limited access to the internet. Nasarawa Eggon students reported that they take their gadgets to school, therefore, Nasarawa Eggon, 2.63 and Lafia, 2.46, have the highest frequencies of bringing gadgets to school while Doma is low. Lafia, 3.44 and Keffi, 3.15 show frequent use of ICT for learning and are given ICT-based assignments while Doma is the least.

Table 3 also shows how adequate supervision is rendered to students when ICT is in use. Akwanga, 2.63 and Lafia, 2.46 reported the highest levels. According to the observations, Lafia and Nasarawa Eggon have schools that have computer laboratories, and the use of the gadgets in these laboratories is strictly under supervision. Lafia students reported high levels of supervision at home. Lafia, 2.65 and Keffi, 2.51 indicated substantial training in ICT in the school for educational purposes, however, Doma, 0.02 and Nasarawa Eggon, 0.33, showed extremely low training levels, highlighting a critical area for intervention. All the local governments, especially Doma, 0.04 and Wamba, 0.07 showed minimal engagement in e-learning or virtual classes.

Table 3: Secondary school students access to the ICT for educational purposes

	Means					
Questions	Akwanga	Doma	Keffi	Lafia	Nasarawa Eggon	Wamba
How frequently do you access the internet?	2.12	0.94	2.84	2.48	1.40	1.07
How often do you bring your gadget to school?	1.94	0.32	1.92	2.46	2.63	2.05
How frequently do you use the ICT for educational purposes?	2.13	1.06	3.15	3.44	1.10	1.17
How often have you been given a task/assignment that requires ICT?	2.01	0.70	3.01	3.38	1.98	1.09
Is there adequate supervision whenever you use ICT gadgets in school?	2.63	2.02	1.97	2.46	2.55	2.46
Is there adequate supervision whenever you use ICT at home for school purposes?	2.62	1.98	2.85	3.06	2.37	1.71
Have you been given any form of training regarding ICT use?	1.40	0.02	2.51	2.65	0.33	0.56
To what extent do you rely on ICT for your education?	1.84	0.26	2.94	2.35	1.12	0.15
Have you engaged in e-learning or virtual classes?	0.17	0.04	1.00	1.05	0.37	0.07

Hypothesis Testing

Ho: There is no significant difference between the phases of ICT usage among secondary school students found in the six local governments studied.

The responses of the secondary school students on their use of ICT gadgets for educational purposes were recorded and analysed using one-way ANOVA and Tukey test at a significant level, 0.05. The results are shown in Table 4 below. Lafia, 2.59 and Keffi, 2.47 have the highest mean scores, indicating greater ICT usage in these regions while Doma, 0.82 and Wamba, 1.15 had the lowest mean scores, suggesting limited ICT usage in these areas. The Tukey grouping helps identify which means are significantly different from each other. Group A, which includes Keffi and Lafia, indicates that they are statistically similar and higher than those of other regions. Group B includes Doma and Wamba, indicating their mean scores are statistically similar and lower than those of other local governments. Group AB includes Akwanga and Nasarawa Eggon, indicating that they are intermediate groups between groups A and B. The F-value is 7.55 and the P-value is 0.00, which is less than the significant level of 0.05, therefore, we reject the null hypothesis, indicating there is a statistical difference in ICT usage across the regions.

Table 4: Statistical differences in ICT usage in the six local governments.

Variables	N	Mean	SD	95% CI	Tukey Grouping	F-Value	P-Value	Decision
Akwanga	9	1.87	0.74	(1.35, 2.39)	AB	7.55	0.00	Reject null hypothesis, Ho
Doma	9	0.82	0.77	(0.30, 1.34)	B			
Keffi	9	2.47	0.71	(1.95, 2.99)	A			
Lafia	9	2.59	0.71	2.07, 3.11)	A			
Nasarawa Eggon	9	1.54	0.89	(1.02, 2.06)	AB			
Wamba	9	1.15	0.82	(0.63, 1.67)	B			

3.2 Research Question 2: How does ICT usage influence students' learning experiences in this state?

Figure 6 shows that overall, in the six local governments, students show high engagement with entertainment content such as music, videos, and games. Keffi and Lafia had the highest mean score for ICT usage for video, games, and music.

The mean scores for educational purposes are generally lower when compared to entertainment. The use of ICT gadgets for social media showed that students in Nasarawa Eggon lead with 3.84 while students in Wamba trail, with 3.22. However, social media is a significant purpose for the use of ICT gadgets by the students in the six local governments.
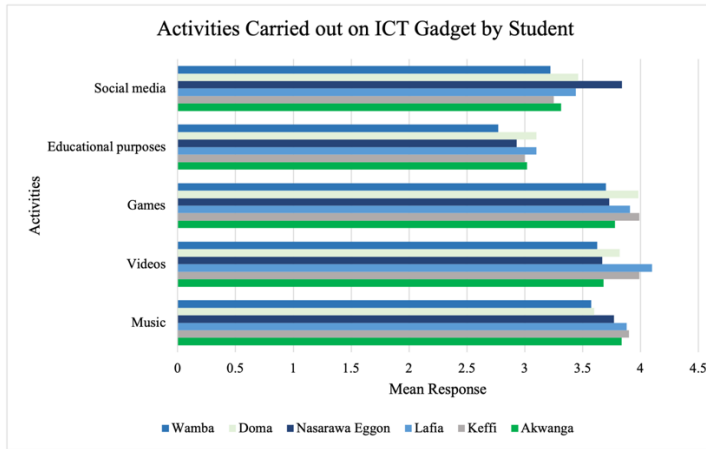

Figure 6: Utilization of ICT Gadgets by students for various activities.

As shown in Table 5, Lafia had the highest frequency of social media app usage with a mean of 3.58, while Doma had the least with a mean of 2.56. Some students reported using social media was used for educational purposes, with Keffi having the highest mean frequency of 2.96, and Akwanga the lowest at 1.34. Keffi, 3.65 and Lafia, 3.58, had the highest perceived impact of ICT on teacher-student interaction, suggesting a stronger positive impact of ICT on their relationships with teachers. Doma had the lowest perceived impact with a mean of 2.90. Keffi, 3.81, and Lafia, 3.75, had the highest ratings of their teachers' ICT experience and usage for educational purposes in class. Lafia reported the highest mean response for ICT being a distraction in class with a mean of 2.70, while Wamba indicated the least concern about ICT being a distraction. Students in Lafia, 3.78, and Nasarawa Eggon, 3.78, believed that ICT should be used more frequently in schools.

Table 5: Mean responses from students about ICT use for social media and educational purposes.

Questions	Akwanga	Doma	Keffi	Lafia	Nasarawa Eggon	Wamba
How frequently do you use social media apps?	3.13	2.56	3.00	3.58	3.37	2.98
How often do you use social media for educational purposes?	1.34	1.74	2.96	2.45	2.31	1.99
How do you perceive the impact of ICT on teacher-student interaction	3.31	2.90	3.65	3.58	3.21	3.10
How will you rate your teacher's experience with ICT	3.64	2.76	3.81	3.75	3.41	3.35
How will you judge your teacher's ICT use for educational purposes in class?	3.42	2.60	3.53	3.53	3.48	3.17
Do you think ICT is a form of distraction for your teachers in class	2.31	2.32	2.47	2.7	2.47	2.22
In your opinion, how often should ICT be used in schools	3.49	2.98	3.46	3.78	3.78	3.42

Hypothesis Testing

Ho: There is no significant difference in the usage of ICT gadgets for various purposes.

Table 6 presents the analysis of variance (ANOVA) results to determine the statical differences in the usage of ICT gadgets for various purposes across the six local governments at 95% confidence intervals (CI). The mean scores indicate that students predominantly use ICT gadgets for entertainment purposes, games, 3.85, videos, 3.81, and music, 3.76, while, social media, 3.42, had a moderate level of engagement, while educational purposes, 2.99, had the lowest mean score and is significantly different from other categories, indicating that ICT gadgets are less frequently used for educational activities. The ANOVA results show a significant difference among the mean scores for different uses of ICT gadgets. Since the P-value = 0.00, the null hypothesis was rejected indicating that there was a difference in the means.

Table 6: Statistical differences in the usage of ICT gadgets for various purposes

Variables	N	Mean	SD	95% CI	Tukey Grouping	F-Value	P-Value	Decision
Music	6	3.76	0.14	(3.62, 3.90)	A	28.53	0.00	Reject

Videos	6	3.81	0.19	(3.67, 3.96)	A			null hypothesis, Ho
Games	6	3.85	0.13	(3.71, 3.99)	A			
Educational purposes	6	2.99	0.12	(2.85, 3.13)	C			
Social media	6	3.42	0.23	(3.28, 3.56)	B			

4. DISCUSSIONS

The low accessibility of students to ICT gadgets, as indicated by the research shows that ICT is in an emerging phase in these six local governments as explained by Thomas & Abanikannda (2023), [17]. The integration of innovative technologies such as computers, laptops, mobile devices, and virtual classrooms is not prominent in these areas. In particular, Doma, Nasarawa Eggon, and Wamba have limited recognition and use of ICT gadgets among students. Conversely, Keffi, Lafia, and Akwanga local governments demonstrate a gradual increase in awareness and use of ICT for educational purposes.

Observations of schools in these local governments reveal that while some had ICT gadgets, students had little to no access to these facilities except under strict supervision. The study indicated significant statistical differences in the use of ICT for educational purposes across the six local governments. Lafia and Keffi had the highest levels of ICT use, Akwanga and Nasarawa Eggon had moderate use, and Doma and Wamba had the lowest usage. This disparity is attributed to the low accessibility of ICT gadgets and insufficient training in these areas. However, there is a general rate of ICT illiteracy among the students in the six local governments which agrees with the research carried out by [26].

The study also identified major factors affecting the use of ICT for educational purposes, including limited access to ICT gadgets, inadequate training, lack of supervision during ICT use, and poor internet access. These findings corroborate the research of Ogundile et al., (2019) and the discussion by Jacob et al., (2020), [27], [28].

Additionally, the study revealed that secondary school students in these local governments primarily use ICT gadgets for entertainment purposes, such as music, videos, games, and social media, rather than for educational purposes. Statistical analysis indicated similar usage patterns for music, videos, and games, intermediate usage for social media, and the least usage for educational purposes.

5. RECOMMENDATIONS

The results of this study show that a high percentage of students have little to no access to ICT gadgets. To address this, efforts such as community initiatives, increased funding for ICT infrastructure in secondary schools, and leveraging family and peer networks to facilitate access can greatly benefit students. Educational stakeholders and policymakers should develop strategies to enhance ICT accessibility for students.

The significant disparity in ICT experiences among the six local governments highlights the need for investment in ICT infrastructure and education, particularly in areas with lower ICT experiences. Enhancing internet infrastructure and access in local governments like Doma and Wamba is crucial. Promoting the use of personal gadgets under supervision in schools can increase students' exposure to ICT and enhance their experiences. Additionally, parental involvement and supervision in students' ICT usage should be encouraged.

Expanding or introducing e-learning and virtual class opportunities can ensure all students benefit from digital education. Students should be encouraged to use ICT for educational purposes by incorporating relevant activities into their routines. Promoting digital literacy through educational curriculums will further increase ICT usage.

In summary, improving ICT accessibility, infrastructure, and education, along with fostering a supportive environment both at school and home, will enhance students' digital experiences and educational outcomes.

6. CONCLUSION

This study analyzed the influence of ICT on secondary school education experiences in six local governments in Nasarawa State, namely Akwanga, Doma, Keffi, Lafia, Nasarawa Eggon, and Wamba. Questionnaires were designed and distributed to a sample of 680 secondary school students from these local governments. The collected data were analyzed using means and statistical methods, including One-way Analysis of Variance (ANOVA) where applicable.

The results of the research highlight significant differences in ICT accessibility and usage among secondary school students across the six local governments. The study found that ICT usage in the educational sector in these areas is still in the emerging phase. Specifically, 65% of students in Lafia, 58% in Akwanga and 63% in Keffi have more than average experience in using ICT. Meanwhile, 57% of students in Nasarawa Eggon and 56% in Wamba also had more than average experience. However, Doma had the lowest percentage, with only 36% of students having such experience. The research also indicated that secondary school students with access to ICT gadgets are highly engaged in games, videos, and music, rather than using them for educational purposes.

Overall, this study emphasizes the importance of a multifaceted approach to improving ICT accessibility and usage across the six local governments studied. By addressing the identified gaps and implementing targeted strategies, educational stakeholders can ensure that all students in Nasarawa State have equal opportunity to benefit from ICT in their education.

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