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Research Article

Availability and Accessibility of Digital Literacy and Its Influence on Democratic Attitudes among Secondary School Students in Gusau Educational Zone, Zamfara State

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Abstract. This study examined the availability and accessibility of digital literacy resources and their influence on democratic attitudes among secondary school students in the Gusau Educational Zone, Zamfara State. The rapid growth of digital technologies has made digital literacy an essential skill for accessing information, evaluating online content, and participating responsibly in civic and democratic activities. However, disparities in digital infrastructure and access in many developing regions may limit students' opportunities to develop these competencies. The study employed a descriptive survey research design. The population comprised 8,753 SS2 students from public

secondary schools in Gusau and Tsafe Local Government Areas. A sample of 348 students was selected using a stratified random sampling technique. Data were collected using a structured questionnaire titled Availability and Accessibility of Digital Literacy and Democratic Attitudes Questionnaire (AADLDAQ). The instrument was validated by experts and achieved a reliability coefficient of 0.89 using Cronbach's Alpha. Data were analyzed using one-sample t-test and simple linear regression at a 0.05 level of significance. The findings revealed that digital literacy resources are significantly available and accessible to students in the study area. The results also indicated that digital literacy has a positive and significant influence on students' democratic attitudes and participation. The study concluded that improving digital literacy resources and access in schools can strengthen students' civic awareness and democratic engagement.

Keyword: Accessibility, Availability, Democratic Attitudes, Digital Literacy, Secondary School Students

INTRODUCTION

The rapid advancement of digital technology has significantly transformed how young people access information, communicate, and participate in social and political activities in contemporary societies. In the twenty-first century, digital technologies such as the internet, social media, and mobile devices have become central tools for learning, communication, and civic engagement. Consequently, digital literacy has emerged as an essential competency that enables individuals to effectively locate, evaluate, create, and communicate information through digital platforms. Scholars emphasize that digital literacy equips students with the critical thinking and analytical skills required to navigate the vast amount of information available online and to make informed decisions in civic and democratic processes (Pangrazio & Sefton-Green, 2021; Yadav, 2023). These competencies are particularly important for young people who increasingly rely on digital media as their primary source of information and communication.

Furthermore, the digital literacy plays a vital role in enabling individuals to critically evaluate digital content and identify misinformation in online environments. With the proliferation of digital media and social networking platforms, young people are frequently exposed to large volumes of unverified information, which may influence their perceptions of social and political issues. Studies indicate that individuals who possess strong digital literacy skills are better able to critically assess online information, identify fake news, and participate responsibly in digital spaces (Nurjanah et al., 2024). Thus, digital literacy has become a fundamental requirement for responsible citizenship in modern democratic societies. The integration of digital media into education and everyday life has created new opportunities for civic learning and democratic engagement among students.

Digital platforms such as social media, online forums, and educational technologies allow young people to discuss social issues, share opinions, and participate in public discourse. Research has shown that these platforms can promote democratic participation by encouraging dialogue, collaboration, and civic awareness among students (Hasrullah et al., 2023). Similarly, scholars maintain that digital literacy supports the development of digital citizenship by helping learners understand their rights, responsibilities, and ethical behavior in digital environments (Al-Hariri et al., 2024). Through these competencies, students can engage constructively in democratic processes and contribute meaningfully to societal development. In addition, the media and digital literacy significantly contribute to the development of democratic engagement and social transformation among young people. Students who possess adequate digital literacy skills are more likely to analyze media messages critically, engage in public discussions, and participate actively in civic and political activities (Cleofas & Labayo, 2024; Muringa & Adjin-Tettey, 2024). Digital literacy learning environments promote critical reasoning, dialogue, and civic awareness among students, which are important components of democratic attitudes and responsible citizenship (Hermansyah & Mohamed, 2024).

Despite the growing importance of digital literacy, scholars note that many educational institutions, particularly in developing countries, still face challenges related to the availability and accessibility of digital resources. Limited access to digital devices, inadequate internet connectivity, and insufficient digital infrastructure often restrict students' opportunities to develop essential digital skills (Hasrullah et al., 2023). As a result, disparities in access to digital resources may influence students' ability to participate effectively in democratic processes and civic activities. Given these concerns, understanding the availability and accessibility of digital literacy resources and their influence on democratic attitudes among students has become an important area of educational research. Investigating these issues can provide valuable insights into how schools can better support the development of digitally literate and democratically responsible citizens.

The studies show that digital literacy significantly affects youth civic engagement and democratic attitudes. Akpa, Ibrahim, and Suleiman (2024) found that access to digital tools predicts Nigerian secondary school students' readiness to engage in civic discussions online. In Kenya, Mwangi and Njoroge (2023) reported that students with higher digital literacy critically engaged with political content on social media. Similarly, Ojo and Adeoye (2022) found that internet access and digital skills were positively associated with participation in community decision-making. Kaur and Kaur (2024) showed that limited digital access in rural Indian schools reduced students' participation in online civic activities, a finding echoed by Mokgokong and Ntshangase (2023) in South African schools. In Europe, Sánchez-Ruiz, García-Fernández, and Pérez-García (2025) observed that students exposed to digital citizenship programs demonstrated higher democratic

knowledge. García-Peñalvo, Seoane-Pardo, and Sein-Echaluce (2023) reported that classroom technology integration enhanced students' critical thinking and democratic values.

Basu and Banerjee (2023) found that social media literacy among Indian Generation Z students correlated with higher democratic engagement. Lin and Li (2024) noted that digitally literate Taiwanese students could better distinguish credible political information, influencing informed political attitudes. In Asia, Hossain and Islam (2024) reported that digital interactions improved youth participatory behaviors, while Nguyen, Pham, and Nguyen (2022) found that digital literacy interventions increased online civic engagement in Vietnam. Finally, Almeida, Rocha, and Silva (2025) showed that Brazilian students with digital literacy support exhibited stronger democratic attitudes, and Yilmaz and Bayram (2023) found that digital access and skills positively influenced Turkish students' civic intentions, including voting and volunteering. Consequently, these studies indicate that availability and accessibility of digital literacy resources strongly influence democratic attitudes among youth, though contextual disparities persist.

Statement of the Problem

Digital literacy is essential for students to access information, communicate effectively, and participate in civic and democratic activities. However, many secondary schools in the Gusau Educational Zone, Zamfara State, face challenges with the availability and accessibility of digital resources such as computers, internet connectivity, and learning platforms. These limitations may prevent students from developing critical digital skills, reducing their ability to engage in informed discussions and form democratic attitudes. Understanding how the availability and accessibility of digital literacy resources influence students' democratic attitudes is therefore crucial for improving digital education and promoting active citizenship in the region.

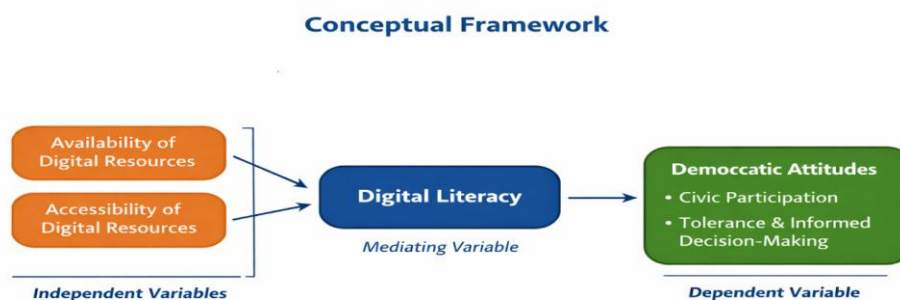
THEORETICAL FRAMEWORK

Digital Literacy Theory, proposed by Eshet-Alkalai (2004), explains that digital literacy is more than just using technology it involves skills to access, evaluate, create, and communicate information critically. These skills help students think critically, solve problems, and participate effectively in society. It shows that students with strong digital literacy are better at evaluating online information, distinguishing credible sources, and engaging in civic and democratic activities. For example, students with digital skills are more confident in participating in community issues and democratic discussions (Omede & Wokoma, 2024; Nguyen & Duong, 2023). The theory also shows that the availability and accessibility of digital resources in schools, such as computers and the internet, directly influence students' ability to develop these skills (Adeyemi & Adeoye, 2025; Bello & Musa, 2023). In this study,

Digital Literacy Theory provides a framework for understanding how access to digital tools can influence secondary school students' democratic attitudes. Students with better access and literacy are more likely to engage critically with information, form informed opinions, and participate meaningfully in democratic life.

Conceptual Framework

This study examines how the availability and accessibility of digital resources influence digital literacy and, in turn, democratic attitudes among secondary school students. Access to digital tools and platforms enables students to develop critical skills such as evaluating information, communicating effectively, and thinking critically. These digital literacy skills then shape their democratic attitudes, including civic participation, tolerance, and informed decision-making. Limited access or unavailability of resources may reduce students' ability to engage meaningfully in democratic processes.



In this framework, availability and accessibility of digital resources are the independent variables, digital literacy is the mediating variable, and democratic attitudes are the dependent variable.

RESEARCH METHODOLOGY

The study employed a descriptive survey research design to examine the availability and accessibility of digital literacy and its influence on democratic attitudes among secondary school students in the Gusau Educational Zone, Zamfara State. The population comprised all SS2 students in public schools within Gusau and Tsafe Local Government Areas, totaling 8,753 students. A sample of 348 students was selected from the population using a stratified random sampling technique to ensure fair representation of students from different schools and locations. Data were collected using a structured questionnaire titled Availability and Accessibility of Digital Literacy and Democratic Attitudes Questionnaire (AADLDAQ), which was designed by the researchers to measure the availability of digital literacy resources, accessibility to digital tools and platforms, and students' democratic attitudes. The

instrument was validated by experts in educational research and measurement, while its reliability was established using Cronbach's Alpha method, which obtained 0.89 reliability coefficient index. The questionnaire was administered directly to the respondents with the assistance of school authorities. The collected data were analyzed using inferential statistical tools. Specifically, one-sample t-test was used to determine the level of availability and accessibility of digital literacy resources, while simple linear regression analysis was used to examine the influence of digital literacy on students' democratic attitudes. All hypotheses were tested at 0.05 level of significance.

Results

Table 1:

One sample t-test showing the level of Availability of Digital Literacy Resources among secondary school students in Gusau Educational Zone (N = 348)

Variable	N	Test-value (μ)	Mean	SD	t-value	df	Sig. (P)	Decision
Availability of Digital Literacy Resources	348	2.50	3.12	0.68	18.25	347	0.000	Reject H_{01}

The result in Table 1 shows the one-sample t-test conducted to determine the level of availability of digital literacy resources among secondary school students in the Gusau Educational Zone. The mean score ($M = 3.12$, $SD = 0.68$) is higher than the test value of 2.50. The calculated t-value ($t = 18.25$, $df = 347$) with $p = 0.000$, which is less than 0.05, indicates a statistically significant difference. Therefore, the null hypothesis (H_{01}) is rejected, implying that there is a significant level of availability of digital literacy resources among the students.

Table 2:

One sample t-test showing the level of Accessibility of Digital Literacy Tools among secondary school students in Gusau Educational Zone (N = 348)

Variable	N	Test-value (μ)	Mean	SD	t-value	df	Sig. (P)	Decision
Accessibility of Digital Literacy Tools	348	2.50	3.05	0.72	16.34	347	0.000	Reject H_{02}

The result in Table 2 presents the one-sample t-test conducted to determine the level of accessibility of digital literacy tools among secondary school students in the Gusau Educational Zone. The mean score ($M = 3.05$, $SD = 0.72$) is higher than the test value of 2.50. The calculated t-value ($t = 16.34$, $df = 347$) with $p = 0.000$, which is less than 0.05, indicates a statistically significant difference. Therefore, the

null hypothesis (H_{02}) is rejected, indicating that there is a significant level of accessibility to digital literacy tools among the students.

Table 3:

Simple Linear Regression Analysis showing the influence of Digital Literacy on Democratic Participation among secondary school students in Gusau Educational Zone

Variable	B	Std. Error	Beta	t-value	Sig. (P)
Constant	1.114	0.112	-	8.51	0.000
Democratic Participation	0.478	0.052	0.530	13.71	0.000

The result in Table 3 presents the simple linear regression analysis conducted to determine the influence of digital literacy on democratic participation among secondary school students in the Gusau Educational Zone. The result shows that digital literacy significantly predicts democratic participation ($\beta = 0.530$, $t = 13.71$, $p = 0.000$), which is less than the 0.05 level of significance. This indicates that digital literacy has a positive and significant influence on students' democratic participation. Therefore, the null hypothesis (H_{03}), which states that digital literacy has no significant influence on democratic participation among secondary school students in the Gusau Educational Zone, is rejected.

DISCUSSION

The findings of this study revealed that there is a significant level of availability of digital literacy resources among secondary school students in the Gusau Educational Zone, Zamfara State. The analysis showed that the mean score of availability was significantly higher than the criterion mean, indicating that digital resources are relatively available to students in the study area. This finding supports the view that the presence of digital tools and infrastructure in schools can enhance students' exposure to digital learning environments and support their development of digital competencies. This result is consistent with the findings of Adeyemi and Adeoye (2025), who reported that the availability of digital infrastructure in schools plays a significant role in promoting students' digital literacy development. Similarly, Bello and Musa (2023) noted that when schools provide adequate digital resources, students are more likely to engage in digital learning activities and develop relevant technological skills.

The study also found a significant level of accessibility to digital literacy tools among secondary school students in the Gusau Educational Zone. The statistical result indicated that students have meaningful access to digital tools and platforms, which may support their engagement with digital information and communication technologies. This finding aligns with the view that accessibility to digital technologies is a critical factor in the development of digital literacy skills among students. The result supports the findings of Nguyen and Duong (2023), who observed that students with greater access to digital technologies demonstrate

higher levels of digital literacy and improved ability to evaluate online information. In addition, Okoye and Nwankwo (2023) emphasized that access to digital tools enables students to explore information sources, communicate effectively, and participate actively in learning and civic discussions.

Furthermore, the study revealed that digital literacy has a significant positive influence on democratic participation among secondary school students in the Gusau Educational Zone. The regression analysis indicated that students with higher levels of digital literacy are more likely to demonstrate democratic participation, including engaging in civic discussions and forming informed opinions about social and political issues. This finding supports the argument that digital literacy equips students with the skills needed to access diverse information sources, critically analyze content, and participate meaningfully in democratic processes. The result is consistent with the findings of Li and Wong (2022), who reported that digital literacy promotes civic engagement and democratic participation among young people. Similarly, Tambo and Smith (2024) found that digitally literate youth are more likely to engage in democratic activities because they are able to access and critically evaluate information from various digital platforms.

Consequently, the findings of this study suggest that both the availability and accessibility of digital literacy resources play an important role in supporting students' digital competencies, which in turn influence their democratic participation and attitudes. These results highlight the importance of improving digital infrastructure and access in schools in order to strengthen students' ability to participate actively and responsibly in democratic processes.

CONCLUSION

The study examined the availability and accessibility of digital literacy resources and their influence on democratic participation among secondary school students in the Gusau Educational Zone, Zamfara State. The findings revealed that digital literacy resources are significantly available and accessible to students in the study area. The study also established that digital literacy has a significant positive influence on students' democratic participation. This implies that when students have access to digital tools and develop digital literacy skills, they are better able to access information, engage in civic discussions, and participate meaningfully in democratic processes. Therefore, improving digital literacy resources and access in schools can enhance students' civic awareness and democratic attitudes.

RECOMMENDATIONS

1. Government and educational authorities should provide adequate digital infrastructure such as computers, internet connectivity, and digital learning platforms in secondary schools to enhance digital literacy among students.
2. School administrators should ensure that available digital resources are easily accessible to students for learning and civic engagement activities.
3. Teachers should integrate digital literacy skills into classroom instruction to help students develop critical thinking and responsible use of digital technologies.
4. Training programs should be organized for teachers to improve their competence in the use of digital technologies for teaching and learning.
5. Schools should encourage students to use digital platforms for constructive discussions and activities that promote civic awareness and democratic participation.

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