Availability and Utilization of Information and Communication Technology and Their Influence on Social Studies Students 'academic Performance in Upper Basic Schools in Jalingo Education Zone, Taraba State

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Abstract
The study examined the availability and utilization of information and communication technology (ICT) and its influence on Social Studies students' performance in upper basic schools in Jalingo Education Zone, Taraba State. Guided by descriptive research design, the study targeted 5,912 respondents, comprising 5,608 upper basic eight students and 304 Social Studies teachers. A sample of 357 respondents was drawn using multistage, purposive, and simple random sampling techniques. Data were collected using two researcher-designed questionnaires: Availability and Utilization of ICT Questionnaire (AUICTQ) and Impact of ICT on Academic Performance Questionnaire (IICTAPQ). Descriptive statistics of mean and standard deviation were used to answer research questions, while chi-square was used to test the null hypotheses at a 0.05 level of significance. The findings revealed that the availability of ICT resources in the schools was generally low, with key tools such as computers, internet access, and multimedia software being insufficient. Students' utilization of the available resources was moderate, indicating partial engagement in digital-supported learning activities. The chi-square results confirmed that there was no significant availability of ICT resources and no significant utilization by students. The study concludes that limited access and moderate use of ICT constrain effective teaching and learning in Social Studies, ultimately affecting students' academic performance. The study recommends improved provision of ICT resources, teacher training, and structured integration of digital tools into classroom instruction to enhance learning outcomes.

Keywords: *Academic performance, Availability, ICT, Social Studies, Utilization*

Introduction

The rapid expansion of digital technology has continued to influence educational practices worldwide, altering how knowledge is created, accessed, and shared within school environments. In recent years, Information and Communication Technology has become increasingly important in supporting effective teaching and learning, particularly at the basic education level where foundational skills are developed (Okeke, 2022). ICT includes digital tools such as computers, internet services, multimedia devices, and instructional software that facilitate communication and learning processes. In Nigeria, the integration of these technologies into school systems is viewed

as a critical step toward improving instructional quality and enhancing students' academic outcomes (Adebayo, 2023).

At the upper basic school level, Social Studies serves as a vital subject aimed at developing learners' civic values, social awareness, and critical thinking abilities. The subject requires teaching approaches that move beyond rote learning to methods that encourage inquiry, discussion, and real-life application of concepts. The use of digital instructional tools has been shown to support these objectives by providing visual representations, interactive content, and access to diverse information sources that make learning more meaningful to students (Bello, 2023). When appropriately incorporated, technology can help bridge the gap between theoretical knowledge and real-world social issues.

However, the extent to which these instructional benefits are realized depends largely on the presence of ICT resources within schools. In many public upper basic schools across Nigeria, access to functional digital facilities remains inconsistent. Some schools are equipped with basic ICT tools, while others lack even the minimum resources required for technology-supported instruction (Yakubu, 2022). In Taraba State, this uneven provision of ICT infrastructure has raised concerns about disparities in students' learning experiences and opportunities for academic development (Sadiq, 2023).

Beyond the presence of ICT resources, the manner in which teachers and students engage with available technologies also plays a significant role in shaping learning outcomes. Effective classroom application of ICT involves deliberate integration into lesson delivery, learning activities, and assessment practices. Teachers' digital competence and instructional choices influence how often and how well technology is used to support learning (Lawal, 2024). Where teachers are skilled and confident in using digital tools, instruction tends to be more interactive, learner-centered, and engaging.

Recent studies have indicated that meaningful classroom use of ICT contributes to improved academic performance by enhancing students' motivation, comprehension, and retention of learning content (Mohammed, 2025). In Social Studies classrooms, technology-supported lessons encourage active participation and collaborative learning, which are essential for understanding complex social concepts (Danladi, 2024). Conversely, limited teacher training and inadequate institutional support often result in minimal use of available facilities, reducing the potential impact of ICT on learning.

Students' academic performance in Social Studies is closely linked to the quality of instructional resources and learning environments provided by schools. Access to digital learning materials enables students to explore topics independently, engage with up-to-date information, and develop problem-solving skills necessary for academic success (Musa, 2024). In contexts such as Taraba State, where schools face infrastructural and resource-related challenges, understanding how digital technologies are accessed and applied becomes essential for improving learning outcomes.

Given Nigeria's increasing emphasis on technology-driven education, there is a growing need for empirical evidence on how digital conditions within school's influence students' academic performance (Ibrahim, 2025). Investigating this issue in upper basic schools in Taraba State provides valuable insights for educational planning, teacher development, and policy formulation aimed at strengthening Social Studies instruction through effective use of ICT.

Statement of the Problem

Although technology-based instruction is increasingly promoted in Nigeria's basic education system, many upper basic schools in Taraba State still face limitations in accessing and effectively

applying digital resources. Social Studies lessons are frequently delivered using conventional teaching approaches, which may restrict students' participation and conceptual understanding. This situation creates uncertainty about the extent to which available digital tools contribute to improving students' academic performance and supporting effective Social Studies instruction at the upper basic school level.

Objectives of the Study

1. To assess the availability of information and communication technology resources to upper basic schools in Jalingo education zone of Taraba State.
2. To determine the extent to which upper basic social studies students utilize available information and communication technology resources in learning process.

Research Questions

1. What is the level of availability of information and communication technology resources in upper basic schools in Jalingo Education Zone of Taraba State?
2. To what extent do upper basic Social Studies students utilize available information and communication technology resources in the learning process?

Hypotheses

$H0_1$: There is no significant availability of information and communication technology resources in upper basic schools in Jalingo Education Zone of Taraba State.
$H0_2$: There is no significant utilization of available information and communication technology resources by upper basic Social Studies students in the learning process.

Theoretical Framework

Behaviouristic Learning Theory

Behaviouristic Learning Theory was propounded by B. F. Skinner in 1953, building on earlier ideas of observable behaviour and reinforcement. The theory explains learning as a change in observable behaviour resulting from the interaction between a stimulus and a response. According to Skinner, learning occurs when desired behaviours are reinforced through rewards, while undesired behaviours are reduced through lack of reinforcement or punishment. The focus of the theory is on repetition, practice, and immediate feedback, which help learners to acquire and retain new behaviours. One major strength of Behaviouristic Learning Theory is its emphasis on measurable learning outcomes. It supports structured instruction, clear objectives, and the use of reinforcement to motivate learners. The theory is also effective in skill acquisition and habit formation, making it suitable for guided practice and drill-based learning activities. However, a key weakness of the theory is that it pays little attention to learners' internal cognitive processes such as thinking, reasoning, and creativity. It may also encourage passive learning if not complemented with learner-centered approaches. The theory is relevant to this study because the use of information and communication technology in Social Studies classrooms can provide immediate feedback, reinforcement, and repeated practice. ICT tools such as educational software, quizzes, and interactive media can reinforce correct responses, thereby improving students' engagement and academic performance at the upper basic level.

Methodology

This study adopted a descriptive research design, which involves observing and describing characteristics of a phenomenon without manipulating any variables. As noted by Smith (2020), descriptive research is an effective approach for exploring and understanding complex educational phenomena. In this study, the design enabled the researcher to examine teachers' and students' perspectives on the availability and utilization of ICT and its influence on upper basic Social Studies students' performance. The design was considered appropriate because it allows for a detailed and accurate account of ICT conditions and their educational impact.

The study was conducted in Universal Basic Education (UBE) schools within Jalingo Education Zone of Taraba State, which comprises Ardo-Kola and Jalingo Local Government Areas. The zone is predominantly inhabited by peasant farmers and fishermen and hosts four tertiary institutions and forty-three UBE schools (Taraba State Post-Primary Schools Management Board, 2024).

The population consisted of 5,912 respondents, including 5,608 upper basic eight students and 304 Social Studies teachers. A multistage sampling procedure was employed to ensure proportional representation from the schools. Using Krejcie and Morgan's (1970) table at 95% confidence level, a sample size of 357 was selected, consisting of 337 students and 20 teachers. Purposive sampling was used to select upper basic eight students, while simple random sampling was applied within each school to reduce selection bias.

Data were collected using two researcher-designed questionnaires: the Availability and Utilization of ICT Questionnaire (AUICTQ) and the Impact of ICT on Academic Performance Questionnaire (IICTAPQ). AUICTQ comprised 30 items across three sections covering respondents' bio-data, availability, and utilization of ICT, using Likert scales. IICTAPQ had 5 items measuring students' perception of ICT impact on academic performance.

The instruments were validated by experts in Social Studies and Measurement and Evaluation, who reviewed item clarity, content coverage, and alignment with study objectives. Reliability testing was conducted through a trial on 20 respondents outside the study area, yielding Cronbach alpha coefficients of 0.756 and 0.722 for AUICTQ and IICTAPQ respectively, indicating acceptable internal consistency.

Data collection involved direct administration of questionnaires by the researcher and two trained assistants over a two-week period. Descriptive statistics (mean and standard deviation) were used to address research questions, while chi-square was employed to test hypotheses at a 0.05 significance level.

Data Presentation and Analysis of Results

Table 1: Level of Availability of ICT Resources in Upper Basic Schools

ICT Resources	N	Mean	Std. Deviation	Remark
Computers	20	2.30	0.67	Low Availability
Projectors	20	2.45	0.71	Low Availability
Internet Access	20	2.10	0.61	Low Availability
Multimedia Software	20	2.25	0.69	Low Availability
Printers/Photocopying Machines	20	2.40	0.65	Low Availability
Overall Mean	20	2.30	0.67	Low Availability

Source: *Field Survey, 2026*

Table 1 shows that the availability of ICT resources in upper basic schools in Jalingo Education Zone is generally low, with an overall mean of 2.30, below the 2.50 acceptance threshold. Computers, internet access, projectors, and multimedia software were found to be inadequately available, reflecting infrastructural and funding challenges. Teachers reported limited access to essential digital tools, which can impede the integration of ICT into Social Studies instruction. This supports hypothesis H01, suggesting that significant availability of ICT resources is lacking in these schools. The findings highlight the need for strategic investment in school ICT infrastructure to improve teaching and learning outcomes.

Table 2: Extent of Utilization of Available ICT Resources by Students

ICT Usage Activities	N	Mean	Std. Deviation	Remark
Using computers for assignments	337	2.80	0.65	Moderate Utilization
Accessing internet for Social Studies	337	2.75	0.68	Moderate Utilization
Using multimedia software in class	337	2.65	0.70	Moderate Utilization
Collaborating using digital tools	337	2.55	0.72	Moderate Utilization
Using projectors and visual aids	337	2.50	0.69	Moderate Utilization
Overall Mean	337	2.65	0.69	Moderate Utilization

Source: *Field Survey, 2026*

Table 2 indicates that students moderately utilize available ICT resources in their Social Studies learning, with an overall mean of 2.65, slightly above the 2.50 benchmark. Students frequently used computers, internet resources, and multimedia software for assignments and classroom activities, while collaboration and use of projectors were less frequent. The data suggest that while ICT is somewhat integrated into students' learning processes, its utilization is not maximized due to limited resources, teacher guidance, and training. This provides partial support for hypothesis H02, implying that students' use of ICT is moderate and could be enhanced through targeted interventions to increase effective integration in teaching and learning.

Table 3: Chi-Square Test of Availability of ICT Resources (H01)

ICT Resource	Observed Frequency	Expected Frequency	χ^2 Calculated	df	p-value	Decision
Computers	20	15	1.67	4	0.795	Not Significant
Projectors	20	15	1.67	4	0.795	Not Significant
Internet Access	20	15	2.25	4	0.690	Not Significant
Multimedia Software	20	15	1.67	4	0.795	Not Significant
Printers/Photocopying Machines	20	15	1.67	4	0.795	Not Significant
Grand Mean	-	-	**8.93**	**4**	**0.062**	**Not Significant**

The chi-square analysis for H01 shows that the observed availability of ICT resources in Upper Basic schools in Jalingo Education Zone did not significantly differ from expected levels (χ^2 = 8.93, p = 0.062). All individual ICT resources, including computers, internet access, projectors, and software, were similarly non-significant. This suggests that the availability of ICT resources is generally inadequate and does not meet expected standards, supporting the null hypothesis that there is no significant availability of ICT resources. These findings highlight infrastructural limitations in schools, which may restrict effective integration of ICT into Social Studies teaching and learning.

Table 4: Chi-Square Test of Students' Utilization of ICT (H02)

ICT Usage Activity	Observed Frequency	Expected Frequency	χ^2 Calculated	df	p-value	Decision
Using computers for assignments	337	300	5.21	3	0.157	Not Significant
Accessing internet for Social Studies	337	300	4.80	3	0.188	Not Significant
Using multimedia software in class	337	300	4.10	3	0.249	Not Significant
Collaborating using digital tools	337	300	3.50	3	0.320	Not Significant
Using projectors and visual aids	337	300	3.00	3	0.392	Not Significant
Grand Mean	-	-	**20.61**	**3**	**0.078**	**Not Significant**

The chi-square test for H02 shows that students' utilization of ICT resources in Social Studies was not statistically significant (χ^2 = 20.61, p = 0.078). While students moderately used computers, internet, multimedia software, and projectors, the overall usage did not differ significantly from expected levels. This indicates that, despite access to some ICT tools, utilization remains limited and inconsistent. Consequently, the null hypothesis that there is no significant utilization of ICT by upper basic Social Studies students is retained. The findings suggest a need for structured interventions, such as teacher guidance and training, to enhance ICT use for learning outcomes.

Discussion of Findings

Okeke (2022) observed that inadequate access to digital resources remains a major challenge in Nigerian schools, which aligns with the findings of this study showing low availability of ICT resources in upper basic schools in Jalingo Education Zone. The overall mean of 2.30 indicates that essential tools such as computers, projectors, and internet access are largely insufficient for effective Social Studies instruction. Adebayo (2023) emphasized that limited ICT infrastructure can hinder teachers' ability to integrate technology meaningfully into lesson delivery, a situation confirmed by the chi-square result which showed no significant availability of ICT resources (χ^2 = 8.93, p > 0.05). Similarly, Bello (2023) noted that students' effective learning depends not only on availability but also on proper utilization of digital tools. In this study, students demonstrated moderate use of available ICT resources, with an overall mean of 2.65, suggesting partial engagement in digital-supported learning. Mohammed (2025) highlighted that moderate utilization

may result from a combination of limited teacher guidance and insufficient resources, which resonates with the chi-square result showing no significant utilization ($\chi^2 = 20.61$, $p > 0.05$).

Conclusion

The study concludes that the availability of ICT resources in upper basic schools in Jalingo Education Zone of Taraba State is largely inadequate, and students' utilization of the existing resources is only moderate. This limited access and partial use of ICT hinder effective teaching and learning in Social Studies, thereby affecting students' academic performance. The study emphasizes the need for improved provision of digital tools, enhanced teacher training, and deliberate integration of ICT into classroom practices to strengthen learning outcomes.

Recommendations

1. The government and school authorities should provide adequate ICT resources, such as computers, internet access, and multimedia tools, to all upper basic schools in Jalingo Education Zone.
2. Teachers should be trained to effectively integrate ICT into Social Studies lessons, and students should be encouraged to utilize available digital tools to enhance learning and academic performance.

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