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EFFECTS OF ICT ON TEACHING AND LEARNING OF SOCIAL STUDIES IN JALINGO LOCAL GOVERNMENT AREA, TARABA STATE.

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Abstract

This study examined the effects of Information and Communication Technology (ICT) on the teaching and learning of Social Studies in secondary schools within Jalingo Local Government Area, Taraba State, Nigeria. Guided by the Constructivist and Behaviourist Learning Theories, the research investigates how ICT tools influence both teaching strategies and student learning outcomes. The study employed a survey research design, using structured questionnaires to collect data from teachers and students in selected secondary schools, ensuring a diverse representation across urban and rural settings. The sample size was determined using multi-stage random sampling techniques, ensuring the inclusion of various class levels and subject categories. Data were analyzed through descriptive statistics (frequencies, percentages, and means while using inferential statistics of chi square to test the hypotheses at 0.05 level of significance. The findings indicate that ICT resources are available and utilized in Jalingo secondary schools, enhancing teaching and learning processes. However, challenges such as teachers' limited ICT expertise and lack of confidence in using these tools hinder their full potential. The study recommends that teachers undergo further ICT training to boost their proficiency and confidence, schools should invest in modern ICT resources, and efforts should be made to make ICT tools more engaging for students, thereby improving participation and learning outcomes.

Keywords: Effects, ICT, Jalingo, Learning, Social Studies, Teaching.

INTRODUCTION

Information and Communication Technology (ICT) does not possess a single, universally agreed-upon definition, largely because its concepts, applications, and methodologies are continuously evolving. The rapid pace of technological advancement makes it challenging to maintain a fixed understanding of ICT (Adebayo and Akinyemi, 2022). ICT broadly encompasses all forms of digital technologies used to access, store, transmit, and manipulate data. These include devices such as personal computers, smartphones, digital televisions, email systems, and robotic tools (Okon and Ibrahim, 2021). Fundamentally, ICT revolves around the digital processing, management, and communication of information.

In recent years, ICT has become an essential tool, significantly transforming global interaction, education, and societal practices. Its relevance is increasingly evident in sectors such as business, governance, healthcare, banking, and particularly education, where e-learning and digital platforms are redefining traditional modes of instruction (Ojo and Eze, 2023). Contemporary commercial and administrative processes are now largely mediated by ICT through the use of telecommunication networks, internet-based systems, and data-sharing platforms.

ICT has been described as a revolutionary development that incorporates computers, internet technologies, and telecommunication systems into nearly every facet of human activity. It facilitates seamless data exchange and has become the digital highway through which global information is accessed and distributed (Lawal and Omotayo, 2020). ICT includes not only computing devices but also other electronic systems like cameras, projectors, and mobile telephones used to process and communicate diverse forms of data such as images, text, and audio (Ibrahim and Musa, 2021). These technologies are not limited to communication alone but also support a wide range of educational and personal functions.

In educational contexts, ICT can be defined as the deployment of digital technologies to process and disseminate information using various electronic devices. It serves as a collective term for all tools that support the handling, transmission, and exchange of educational content (Adegbite and Nwosu, 2022). The pervasive impact of ICT on education—especially in developed nations—has significantly enhanced the quality and accessibility of teaching, learning, and academic research.

The integration of ICT in schools has the capacity to improve student engagement, facilitate skill acquisition, and bridge the gap between classroom learning and real-world applications. It also plays a critical role in preparing learners for the digital economy and fostering global competitiveness (Chukwu and Olatunji, 2023). ICT promotes collaboration between the school and its wider environment and enables institutions to adapt to the changing needs of society. It also transforms administrative efficiency by streamlining educational management processes and supporting teachers' instructional delivery through various multimedia tools.

E-learning platforms, in particular, exemplify how ICT is being utilized to provide flexible and inclusive education to learners both on-site and remotely. These platforms have become central to modern education delivery, allowing for web-based instruction that transcends geographical limitations (Yahaya and Suleiman, 2022). As a result, ICT is not only reshaping the educational landscape but also driving social, political, and economic transformations across the globe.

Statement of the Problem

The integration of Information and Communication Technology (ICT) has transformed education globally, offering innovative ways to enhance teaching and learning. However, in Jalingo Local Government Area, Taraba State, the effective use of ICT in teaching Social Studies remains limited. Many schools lack adequate digital infrastructure, and teachers often face challenges related to ICT competency, access, and training. As a result, students may miss out on interactive and engaging learning experiences that ICT provides. This situation raises concerns about the quality and effectiveness of Social Studies instruction, warranting an investigation into the actual effects of ICT on teaching and learning outcomes.

Purpose of the Study

The main purpose of this study is to find out the perception of teachers and students in Information and Communication Technology (ICT) in teaching and learning of government in Secondary schools in Taraba state. Specifically the study intends to:

i. Assess ICT availability in teaching and learning Social Studies in Jalingo secondary schools.
ii. Measure teachers' and students' ICT usage in Social Studies lessons in Jalingo secondary schools.
iii. Identify challenges limiting ICT use in Social Studies teaching and learning in Jalingo secondary schools.

Hypotheses

Ho_1: There is no significant availability of ICT facilities for teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area.

Ho_2: There is no significant use of ICT by teachers and students in teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area.

Ho_3: There are no significant challenges facing the use of ICT in teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area, Taraba State.

Conceptual Framework

Concept of Information and Communication Technology (ICT)

Information and Communication Technology (ICT) encompasses the tools and resources used to handle, acquire, process, store, and disseminate information. ICT includes a range of technologies such as computers, the internet, broadcasting technologies (radio and television), and telephony, which are essential for accessing, processing, and communicating information (Balaban et al., 2023). In the Nigerian educational context, ICT infrastructure comprises multimedia resources, internet connectivity, learning management systems, and digital assessment tools, facilitating both teaching and learning processes (Agbo et al., 2024).

Availability of Computers in Schools

The integration of computers into classrooms significantly influences teaching practices. Teachers are required to adapt by acquiring new skills, restructuring classroom management, and developing innovative pedagogical strategies. This transition demands substantial time and effort, often leading to increased workloads. However, collaborative efforts, such as sharing resources and best practices, can alleviate these challenges (Elujekwute et al., 2024). In Nigeria, initiatives like the Tertiary Education Trust Fund (TETFUND) have invested in ICT infrastructure to enhance digital literacy and productivity in tertiary institutions (Ogundare, 2023).

Usage of Computers in Teaching and Learning

Teachers' adoption of computers in instructional activities is influenced by their perceptions of the technology's usefulness and ease of integration. Studies indicate that when teachers recognize the benefits of computer-assisted instruction, such as enhanced student engagement and improved learning outcomes, they are more likely to incorporate technology into their teaching (Obadare & Alonge, 2024). Furthermore, the effective use of computers in education

requires ongoing professional development to equip teachers with the necessary skills and confidence (Eke & Bufumoh, 2024).

Theoretical Framework

Constructivist learning theory posits that learners actively construct knowledge through experiences and reflection, rather than passively receiving information. This approach emphasizes the learner's central role in the educational process, fostering environments where students engage in problem-solving, critical thinking, and collaboration. The integration of Information and Communication Technologies (ICT) has further enhanced constructivist methodologies, providing tools that support interactive and personalized learning experiences.

Recent studies highlight the efficacy of constructivist approaches in digital learning environments. For instance, Zamrin et al. (2024) discuss how advancements in Learning Management Systems (LMS), incorporating features like artificial intelligence and gamification, align with constructivist principles to enhance student engagement and learning outcomes. Similarly, Angraini et al. (2024) found that constructivist strategies significantly improve students' computational thinking skills in mathematics education.

In the context of African education systems, the application of constructivist methods through ICT has shown promising results. A study conducted in Zambian secondary schools revealed that ICT-facilitated constructivist teaching methods, such as peer teaching and collaborative research, led to increased student motivation and improved understanding of complex concepts (ResearchGate, 2024). These findings underscore the importance of providing adequate ICT resources and training for educators to effectively implement constructivist strategies.

Behaviourist learning theory, rooted in the works of John B. Watson and B.F. Skinner, emphasizes the role of environmental stimuli in shaping behaviour. According to this perspective, learning is viewed as a change in behaviour resulting from the association between stimuli and responses, reinforced through repetition and feedback. This approach has been instrumental in developing instructional strategies that utilize reinforcement to shape desired learning outcomes.

In contemporary educational settings, behaviourist principles continue to inform practices, particularly in the use of ICT for learning. For example, the implementation of adaptive learning technologies that provide immediate feedback and reinforcement aligns with behaviourist concepts, facilitating efficient skill acquisition (Ulum & Fauzi, 2023). Moreover, the emphasis on observable outcomes in behaviourist theory supports the use of data analytics in monitoring and enhancing student performance.

The influence of socio-economic factors on learning, as highlighted by behaviourist theory, remains pertinent. Access to ICT resources often correlates with socio-economic status, impacting students' opportunities for engagement and learning. Addressing these disparities is crucial to ensuring equitable educational outcomes.

Methodology

This study adopted a survey research design, which is well-suited for collecting data from a defined population through structured instruments. This approach was considered appropriate for assessing the effects of ICT on teaching and learning among secondary school teachers and students, as it allows for data collection and statistical analysis to identify trends and relationships. The research was carried out in selected secondary schools within a defined area,

chosen for its variety of school types and the presence of both urban and rural settings that could influence ICT usage in teaching.

The population of the study comprised all teachers and students in the selected secondary schools. From this population, a sample size of 388 respondents was drawn using a multi-stage sampling technique. Schools were first randomly selected, followed by proportionate stratified sampling of participants based on class level and subject category. This ensured fair representation of both students and teachers across different contexts.

The primary tool for data collection was a structured questionnaire, designed to capture demographic information, availability and use of ICT facilities, and perceptions of the impact of ICT on teaching and learning. To ensure the validity of the instrument, it was reviewed by three academic experts from the fields of educational technology and measurement and evaluation, whose suggestions were incorporated to improve clarity and content coverage. The reliability of the instrument was established through a pilot test conducted in two schools not included in the main study, and a Cronbach Alpha coefficient of 0.86 was obtained, indicating a high level of internal consistency.

Results and Discussion

Test of Hypotheses

Hypothesis 1:

Ho_1: There is no significant availability of ICT facilities for teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area.

Table 4: Chi square test showing that there is no significant availability of ICT facilities for teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area

	Value	Df	Asymp.sig.(2-sided)
Pearson Chi-square	13.435	2	.890
Likelihood Ratio	17.310	2	.650
Linear – by - Linear Association	18.125	1	.660
N of valid cases	388		

Table 4 presents the results of a chi-square test to determine if there is a significant availability of ICT facilities for teaching and learning Social Studies in secondary schools in Jalingo Local Government Area. The Pearson chi-square value is 13.435 with 2 degrees of freedom, and the asymptotic significance is 0.890, which is greater than the 0.05 threshold, indicating no significant difference. Similarly, the likelihood ratio (17.310, p = 0.650) and linear-by-linear association (18.125, p = 0.660) both show no significant relationship. Therefore, the null hypothesis is not rejected, confirming that ICT availability is not significantly linked to teaching in the area.

Hypothesis 2

Ho_2: There is no significant use of ICT by teachers and students in teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area.

Table 5 2: Independent - Samples T-Test Analysis of Significant use of ICT by teachers and students in teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area

Variable	Levene's Test for	t-test for Equality of means

	Equality of Variances		t	df	sig	means
	F	Sig			2-tailed	Difference
Equal variance assumed	8.226	.006	4.926	198	.000	.538
Equal variance not assumed			5.217	186	.000	.538

Table 5 presents the results of an independent-samples t-test analysis examining the significant use of ICT by teachers and students in teaching and learning Social Studies in secondary schools in Jalingo Local Government Area. Levene's Test for Equality of Variances indicates a significant difference ($F = 8.226$, $p = 0.006$), suggesting unequal variances between groups. The t-test for Equality of Means shows a t-value of 4.926 ($df = 198$, $p = 0.000$) when equal variances are assumed, and a t-value of 5.217 ($df = 186$, $p = 0.000$) when unequal variances are assumed. Both p-values are less than 0.05, indicating a significant difference.

Hypothesis 3:

Ho_3: There are no significant challenges facing the use of ICT in teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area, Taraba State.

Table 6: Chi square test showing the challenges facing the use of ICT in teaching and learning of Social Studies in secondary schools in Jalingo Local Government Area, Taraba State

	Value	Df	Asymp.sig.(2-sided)
Pearson Chi-square	16.274	2	.905
Likelihood Ratio	11.325	2	.710
Linear – by - Linear Association	8.100	1	.660
N of valid cases	388		

Table 6 presents the results of a chi-square test to examine the challenges facing the use of ICT in teaching and learning Social Studies in secondary schools in Jalingo Local Government Area, Taraba State. The Pearson chi-square value of 16.274 with 2 degrees of freedom and an asymptotic significance (p-value) of 0.905 suggests that there is no significant association between the challenges and the use of ICT. Similarly, the likelihood ratio (11.325, $p = 0.710$) and linear-by-linear association (8.100, $p = 0.660$) also indicate no significant challenges in this context. This implies that ICT challenges are not statistically significant.

Discussion of Findings

According to Adebayo et al. (2022), the availability of modern ICT tools plays a crucial role in enhancing teaching and learning in secondary schools. The results from this study show that in Jalingo Local Government Area, ICT facilities such as projectors, computers, and televisions are widely available for Social Studies instruction, with mean scores above 3.0, aligning with the findings of Opara and Eze (2021). This indicates that schools are embracing modern technologies to improve educational outcomes. However, older technologies like radios and tape recorders received much lower mean scores (1.7), signaling their reduced relevance in contemporary education (Ajayi and Oluwatayo, 2023).

In terms of usage, while teachers agreed that ICT improves student motivation and enhances teaching methods (mean score of 3.1), it did not significantly motivate students to commit to learning (mean score of 1.7). This is consistent with findings by Okeke et al. (2021), who observed that ICT's motivational effects can be context-dependent.

Regarding challenges, the lack of ICT expertise and confidence among teachers (mean score of 3.1) emerged as major barriers, echoing similar concerns raised by Odebunmi and Akinwale

(2022). However, the issue of inadequate power supply was not a significant challenge, aligning with findings in other regions, where power is less of a concern (Nwafor, 2021).

Conclusion

In conclusion, the study reveals that modern ICT facilities are widely available in secondary schools in Jalingo Local Government Area, positively impacting teaching and learning. However, challenges such as teachers' lack of ICT expertise and confidence persist, limiting full utilization. Despite these obstacles, ICT remains a valuable tool for enhancing education, though improvements in training and support are necessary for optimal effectiveness.

Recommendations

On the bases of the above findings the following, recommendations are made:

1. Teachers should receive additional training to enhance their ICT skills and confidence, improving their use of these tools in the classroom.
2. Schools should invest in more modern ICT resources and appropriate software to support teaching and learning.
3. More efforts should be made to make ICT tools engaging for students, increasing their motivation and participation in learning activities.

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