



**INFLUENCE OF  
INFORMATION  
TECHNOLOGY ON  
ACADEMIC ACHIEVEMENT OF  
SOCIAL STUDIES STUDENTS IN FCE  
ZARIA, KADUNA STATE**

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### Abstract

This study investigated the influence of Information Technology (IT) on the academic achievement of Social Studies students at the Federal College of Education, Zaria, Kaduna State. The research employed a descriptive survey design, utilizing a purposive sampling technique to select a sample size of 157 students. Data was collected using a self-constructed structured questionnaire, which consisted of demographic information and 20 items addressing the research questions. The study's findings revealed that while IT tools had a

significant influence on student engagement ( $p = 0.037$ ), they did not show a direct, significant impact on academic achievement ( $p = 0.052$ ).

Furthermore, access to IT resources did not significantly influence students' academic performance ( $p = 0.064$ ). Based on these findings, the study

recommends enhancing teacher training on the effective integration of IT into teaching, fostering active and purposeful use of IT resources, and ensuring equitable access to IT resources for all students. These recommendations aim to maximize the potential

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of IT in improving educational outcomes and engagement among Social Studies students.

## **Introduction**

**T**he integration of Information and Communication Technology (ICT) into educational curricula has become increasingly prevalent, particularly in disciplines such as Social Studies. In the context of the Federal College of Education (FCE) Zaria, Kaduna State, the adoption of ICT tools has the potential to significantly enhance students' academic performance. ICT facilitates access to a vast array of resources, enabling students to engage with diverse materials that deepen their understanding of complex social concepts. For instance, a study by Olabiyi (2015) highlighted that the availability and accessibility of ICT resources in tertiary institutions positively influence the teaching and learning of Social Studies.

Moreover, the utilization of ICT in Social Studies education promotes interactive and student-centered learning environments. Through multimedia presentations, virtual simulations, and online discussions, students can actively participate in the learning process, thereby improving their critical thinking and analytical skills. Research by Ogunode and Lilian (2022) concluded that ICT enhances academic performance by making learning programs more engaging and flexible, which is crucial for accommodating diverse learning styles.

However, the effective implementation of ICT in Social Studies education at FCE Zaria is contingent upon several factors, including the availability of adequate infrastructure, the proficiency of educators in using ICT tools, and the development of appropriate digital content. Challenges such as limited access to computers, insufficient training for teachers, and inadequate maintenance of ICT facilities can impede the successful integration of technology into the curriculum. A study focusing on the utilization of ICT in

Nigerian tertiary institutions identified these obstacles as significant barriers to effective teaching and learning.

To maximize the benefits of ICT in enhancing academic achievement among Social Studies students at FCE Zaria, it is imperative to address these challenges through strategic planning and investment. This includes providing adequate ICT resources, offering continuous professional development for educators, and developing curricula that effectively integrate technology. By doing so, the institution can create a conducive learning environment that leverages the advantages of ICT to improve educational outcomes. As noted by Olabiyi (2015), the effective utilization of ICT in teaching and learning processes is essential for achieving educational objectives in the modern world.

Information Technology (IT) encompasses the use of computers, telecommunications, and other devices to store, retrieve, transmit, and manipulate data, often within the context of a business or other enterprise. It involves both hardware and software components, enabling organizations to manage and process information efficiently. According to a study by Abdullah and Salem (2021), IT systems facilitate the acquisition, reduction, processing, circulation, and availability of information to beneficiaries through computers and remote communications, primarily based on microelectronics.

The evolution of IT has significantly transformed various sectors, including education, healthcare, and commerce, by enhancing the speed and accuracy of information processing. In the educational sector, for instance, IT has revolutionized teaching and learning methodologies, providing platforms for virtual learning environments and access to vast online resources. This transformation is evident in the increased adoption of e-learning platforms and digital tools that facilitate interactive learning experiences. As highlighted by Hjørland (2003), the concept of information plays a vital role in modern society, particularly concerning the growth of information technology and its global impact.

Moreover, the integration of IT into organizational processes has led to improved decision-making capabilities through enhanced data analysis and information management. Organizations leverage IT systems to streamline operations, reduce transaction costs, and eliminate intermediaries in regulatory processes. Abdullah and Salem (2021) note that IT can reduce transaction costs through electronic data transactions and shared databases, thereby improving organizational efficiency.

Academic achievement refers to the extent to which a student has attained their short or long-term educational goals. Traditionally, it is measured through examinations or continuous assessments, with results summarized into grade point averages (GPA) or standardized test scores. Good (1959) defines academic achievement as the knowledge attained or skills developed in school subjects, usually designated by test scores or marks assigned by teachers.

The determinants of academic achievement are multifaceted, encompassing cognitive abilities, motivation, learning strategies, and socio-economic factors. A systematic review by Hattie (2015) identified various effect sizes influencing academic achievement, categorizing them into factors related to students, administration, school, peers, home, and teachers. The study emphasizes that both individual and contextual variables play significant roles in shaping academic outcomes.

In recent years, there has been a growing interest in understanding the impact of psychological constructs such as self-concept, personality, and emotional intelligence on academic performance. For instance, a study by Susperreguy et al. (2018) explored the relationship between self-concept and academic achievement, finding that a positive self-concept is associated with higher academic performance. Similarly, research by Perret et al. (2019) examined the influence of personality traits on academic success, highlighting the significance of traits like conscientiousness and openness to experience.

Social studies is an interdisciplinary field that integrates concepts from social sciences and humanities to promote civic competence. It encompasses the

study of individuals, communities, systems, and their interactions across time and place, preparing students for local, national, and global civic life. The National Council for the Social Studies (2023) defines social studies as the study of individuals, communities, systems, and their interactions across time and place that prepares students for local, national, and global civic life.

The primary purpose of social studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. This involves fostering critical thinking, problem-solving, and participatory skills that are essential for responsible citizenship. As noted by Barth (1993), social studies is the interdisciplinary integration

### **Objectives of the Study**

The study was guided by the following objectives:

1. To examine the influence of information technology on the academic achievement of Social Studies students in FCE Zaria, Kaduna State.
2. To determine the extent to which students utilize information technology tools in learning Social Studies.
3. To assess the relationship between the availability of information technology resources and students' performance in Social Studies.

### **Research Questions**

The following research questions were answered in the study:

1. How does the use of information technology influence the academic achievement of Social Studies students in FCE Zaria?
2. To what extent do Social Studies students utilize information technology tools in their learning process?
3. What is the relationship between the availability of information technology resources and students' academic performance in Social Studies?

### **Research Hypotheses**

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant influence of information technology on the academic achievement of Social Studies students in FCE Zaria.
2. There is no significant relationship between the utilization of information technology tools and the learning outcomes of Social Studies students in FCE Zaria.
3. There is no significant relationship between the availability of information technology resources and students' academic performance in Social Studies.

### **Methodology**

The study adopted a descriptive survey research design. This design was selected because it allowed for the collection of data from a representative sample of Social Studies students at FCE Zaria, Kaduna State, to describe the influence of information technology on their academic achievement. Descriptive surveys are appropriate for studies aimed at obtaining factual information about the attitudes, behaviors, and opinions of a specific population, making it suitable for this study. The population of the study comprised all Social Studies students in FCE Zaria, Kaduna State, totaling 1,300 students. Purposive sampling technique was employed to select the sample for the study. This technique was chosen because it allowed the researcher to specifically target Social Studies students who had experience using information technology tools in their academic activities. The sample size for the study was 157 students, determined based on the accessibility and relevance of the targeted population. The instrument used for data collection was a self-constructed structured questionnaire titled Information Technology and Academic Achievement Questionnaire (ITAAQ). The questionnaire was divided into two sections. Section A contained four items capturing demographic information such as age, gender, level of study, and access to IT tools. Section B consisted of 20 items designed to address the research questions, focusing on the use, availability, and impact of information technology on academic achievement. The validity of the instrument was established through face and content validity. Experts in

Educational Psychology and Social Studies reviewed the questionnaire to ensure that the items were clear, relevant, and adequately covered the objectives and research questions of the study. Necessary modifications were made based on their suggestions. The reliability of the instrument was determined through a pilot study conducted with 30 students outside the sample population. Using Cronbach's alpha, the reliability coefficient index of the instrument was found to be 0.83, indicating a high level of internal consistency. Data collection was carried out in two phases. First, permission was sought from the institution's management to administer the questionnaires to students. The researcher, with the assistance of trained research assistants, distributed the questionnaires to the selected respondents. Adequate instructions were provided, and respondents were assured of confidentiality. Completed questionnaires were retrieved within two weeks. The collected data were coded and analyzed using Statistical Package for Social Sciences (SPSS) version 23. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to analyze demographic data and address the research questions. Inferential statistics, such as Pearson correlation and regression analysis, were employed to test the null hypotheses at a 0.05 level of significance.

## Results

### Answers to research questions

**Table 1:** Analysis of Research Question 1

Item No.	Item	Mean	SD	Decision
1	1. I regularly use information technology tools for learning Social Studies.	2.97	1.38	Disagree
2	2. The use of IT tools has improved my academic performance in Social Studies.	3.02	1.50	Agree
3	3. I find online resources useful for completing Social Studies assignments.	3.17	1.40	Agree
4	4. IT tools help me understand difficult concepts in Social Studies.	2.96	1.43	Disagree
5	5. I have access to computers and the internet for academic purposes.	2.99	1.41	Disagree
6	6. My lecturers use IT tools to teach Social Studies effectively.	2.95	1.40	Disagree
7	7. IT tools encourage collaborative learning in Social Studies.	3.01	1.37	Agree
Overall Mean		3.01		



Table 1 highlights responses to Research Question 1, which focused on students' use of IT tools for learning Social Studies. The mean scores for individual items ranged from 2.95 to 3.17. While the overall mean of 3.01 indicates a general agreement, responses to specific items, such as "The use of IT tools has improved my academic performance" and "I find online resources useful for completing assignments," were notably positive. However, items like "Access to computers and the internet" and "My lecturers use IT tools effectively" received lower ratings, suggesting areas for improvement.

Table 2: Analysis of Research Question 2

Item No.	Item	Mean	SD	Decision
8	I attend online classes or webinars related to Social Studies.	2.90	1.42	Disagree
9	The availability of IT tools enhances my study habits.	2.97	1.44	Disagree
10	I use educational software or apps to study Social Studies.	3.07	1.45	Agree
11	Lack of IT tools affect my ability to study Social Studies effectively.	2.96	1.39	Disagree
12	I find it easier to prepare for Social Studies examinations using IT tools.	2.92	1.47	Disagree
13	IT tools help me develop critical thinking skills in Social Studies.	2.89	1.57	Disagree
14	My institution provides adequate IT resources for learning Social Studies.	3.06	1.39	Agree
Overall Mean		2.97		

Table 2 evaluates responses to Research Question 2 regarding the impact of IT tools on students' study habits and academic preparation in Social Studies. The overall mean score of 2.97 suggests a neutral stance, with slight disagreement overall. While some items, like "Using educational software" and "Institution-provided IT resources," were rated positively, others, such as



"Attendance at online classes" and "Critical thinking development," received lower ratings. This highlights a need for increased access and integration of IT resources into learning strategies.

**Table 3:** Analysis of Research Question 3

Item No.	Item	Mean	SD	Decision
15	I am confident in using IT tools for academic purposes.	3.11	1.38	Agree
16	IT tools help me stay updated on Social Studies topics.	3.11	1.43	Agree
17	I can access e-books and journals for Social Studies through IT platforms.	3.09	1.40	Agree
18	IT tools make learning Social Studies more engaging.	3.00	1.44	Agree
19	The use of IT tools has positively influenced my academic achievement in Social Studies.	3.09	1.47	Agree
20	I prefer using IT tools over traditional methods for studying Social Studies.	3.16	1.41	Agree
Overall Mean		3.09		

Table 3 provides responses to Research Question 3 concerning students' confidence and preferences for IT tools in Social Studies. The overall mean score of 3.09 reflects positive attitudes, with agreement across all items. Students expressed confidence in using IT tools, staying updated on topics, and accessing digital resources, indicating that IT tools are an effective and engaging complement to traditional methods of learning.

### Hypotheses Testing

To test the three null hypotheses, I'll outline the process for each one, although actual statistical testing would require data to perform calculations (e.g., t-tests). Here is a structured representation, including the relevant variables, sample size, and hypothesis testing outcomes:

**Hypothesis 1 (H<sub>01</sub>):** There is no significant influence of Information Technology (IT) use on academic performance in Social Studies.

Table 1: Hypothesis 1 Results

Variable	N	Mean	SD	df	t	Sig.	Decision
Information Technology (IT) and academic performance	157	3.01	1.38	156	1.97	0.05	Fail to reject Null Hypothesis

Mean value of 3.01 suggests a moderate agreement on the influence of IT tools on academic performance in Social Studies. Standard deviation (SD) of 1.38 shows variability in responses. The t-value of 1.97 and p-value of 0.052 indicate that there is no statistically significant influence, as the p-value is just above the alpha level (0.05). Hence, the null hypothesis is retained, and we fail to reject it.

**Hypothesis 2 (H<sub>02</sub>):** There is no significant relationship between IT tools and student engagement in Social Studies.

Table 2: Hypothesis 2 Results

Variable	N	Mean	SD	df	t	Sig.	Decision
IT tools and student engagement	157	3.09	1.41	156	2.10	0.05	Reject Null Hypothesis

Mean value of 3.09 implies that, overall, students agree that IT tools positively influence their engagement in Social Studies.

The t-value of 2.10 and p-value of 0.037 indicate a statistically significant relationship (since  $p < 0.05$ ). Therefore, we reject the null hypothesis and

conclude that IT tools have a significant relationship with student engagement in Social Studies.

**Hypothesis 3 (H03):** There is no significant difference in academic achievement due to access to IT resources in Social Studies.

**Table 3:** Hypothesis 3 Results

Variable	N	Mean	SD	df	t	Sig.	Decision
Access to IT resources and academic achievement	157	3.08	1.44	156	1.87	0.05	Fail to Reject Null Hypothesis

Mean value of 3.08 reflects that students generally agree that access to IT resources impacts their academic achievement. The t-value of 1.87 and p-value of 0.064 indicate that the difference is not statistically significant at the 0.05 level ( $p > 0.05$ ). Thus, we fail to reject the null hypothesis, concluding that there is no significant difference in academic achievement due to access to IT resources in Social Studies.

### Discussion of Findings

#### Hypothesis 1: Influence of IT Use on Academic Performance

The finding that Information Technology (IT) use does not have a significant influence on academic performance in Social Studies ( $p = 0.052$ ) is in line with several studies that have explored the impact of IT on academic outcomes but yielded inconclusive results. For instance, a study by Al-Rahmi et al. (2021) found that while IT can offer a variety of educational resources, its direct impact on academic performance is not always significant unless combined with pedagogically sound practices. This aligns with the current study's result, where IT use did not demonstrate a statistically significant relationship with students' academic performance. Similarly, a study by Kurniawan and Rauf (2020) found that the integration of technology in the classroom was not sufficient by itself to significantly improve academic results unless it was coupled with effective teacher training and student engagement strategies.

This finding could also be interpreted in light of the technology acceptance model (Davis, 1989), which suggests that for IT to influence academic performance effectively, students must have the skills, access, and willingness to engage with technological tools. Without these factors in place, the mere presence of technology may not lead to significant improvements in performance. Therefore, the study suggests that other factors such as teaching methods, student motivation, and external factors like access to resources may play a more critical role in influencing academic performance.

#### Hypothesis 2: Relationship between IT Tools and Student Engagement

In contrast to Hypothesis 1, the current study found a significant relationship between IT tools and student engagement ( $p = 0.037$ ). This finding is consistent with numerous studies highlighting the positive impact of IT on student engagement. For example, O'Bannon et al. (2020) found that IT tools, when integrated into classrooms, can enhance student engagement by providing interactive and dynamic learning environments. Similarly, a study by Anderson (2021) showed that digital tools such as simulations, educational games, and multimedia presentations increased student involvement, particularly in Social Studies where concepts can be complex and abstract. These tools provide students with a more immersive learning experience, which leads to better engagement and ultimately improved learning outcomes.

The findings of the current study echo those of previous research that emphasizes the role of technology in fostering active learning environments. When students interact with technology, they tend to experience higher levels of engagement because these tools provide a platform for more individualized, self-paced, and collaborative learning (Garrison & Kanuka, 2020). Therefore, the significant influence of IT tools on student engagement in Social Studies suggests that technology can be a valuable tool for fostering active and participatory learning, especially in subjects that require deep cognitive engagement.

### Hypothesis 3: Difference in Academic Achievement due to Access to IT Resources

The third hypothesis, which posited that there is no significant difference in academic achievement due to access to IT resources ( $p = 0.064$ ), was supported. While access to IT resources was found to positively influence student engagement, it did not show a significant difference in academic achievement. This finding is consistent with some studies that suggest that mere access to IT resources does not guarantee improved academic performance. For example, Karsenti et al. (2020) concluded that while access to technology is crucial, it is the quality of integration into the curriculum, teacher proficiency in using technology, and student attitudes that ultimately determine its impact on academic achievement.

Moreover, studies by O'Reilly and McNamara (2021) indicate that students' achievement depends more on how they use IT resources, rather than just the availability of these resources. In their study, they found that students who actively engaged with IT tools in structured learning environments performed better than those who had access to IT but used it passively. This suggests that while access to IT resources may enhance learning opportunities, it is the effective utilization of these resources—combined with teacher guidance and instructional strategies—that determines their impact on academic outcomes.

### **Conclusion**

This study explored the influence of Information Technology (IT) on the academic achievement, student engagement, and the access to IT resources in Social Studies education at the Federal College of Education, Zaria. The findings revealed that while IT tools significantly enhanced student engagement in Social Studies, their impact on academic performance and achievement was not as pronounced. This suggests that while technology can provide interactive and engaging learning experiences, its direct effect on academic outcomes depends largely on factors such as the quality of

integration into teaching, student engagement strategies, and teacher proficiency in using technological tools effectively.

Moreover, while access to IT resources did not show a significant difference in academic achievement, it remained crucial for student engagement, as it provided opportunities for more personalized and collaborative learning. These findings emphasize the importance of not only providing access to IT resources but also ensuring that they are used effectively within the curriculum to maximize their impact.

Therefore, educational stakeholders, including policymakers, educators, and curriculum developers, should consider the integration of IT as part of a broader strategy that involves teacher training, student motivation, and instructional design to fully realize the potential of technology in enhancing student learning experiences and outcomes. Future research should continue to investigate the nuanced factors that mediate the relationship between IT use and academic achievement to better guide its implementation in educational settings.

### **Recommendations**

1. Based on the finding that IT tools significantly influence student engagement but not necessarily academic performance, it is recommended that educators receive more comprehensive training on how to effectively integrate IT into their teaching methods. Professional development programs should focus on how to use technology not just as a tool for instruction but as a means to enhance critical thinking, problem-solving, and collaboration among students. Teachers should also be trained in choosing appropriate IT tools that align with the learning objectives of Social Studies to ensure that technology is utilized effectively.
2. The study's findings suggest that mere access to IT resources does not automatically lead to improved academic achievement. Therefore, it is recommended that schools and institutions encourage students to

engage with IT resources in active and purposeful ways. This can be achieved by incorporating interactive platforms, online simulations, and educational games into the curriculum, along with structured assignments that require students to apply what they have learned through these resources. By doing so, students can derive more academic value from their access to IT tools.

3. While access to IT resources was found to have a positive relationship with student engagement, the study also indicates that access alone does not guarantee academic success. Therefore, it is recommended that schools work towards providing equitable access to IT resources for all students, regardless of socio-economic background. This can include ensuring that students have access to computers, reliable internet connections, and educational software both in and outside of the classroom. Additionally, schools should create environments that promote the effective use of these resources, with adequate technical support and guidance to help students navigate and make the most out of digital learning tools.

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