

Impact of E-Learning on Junior Social Studies Students' Performance and Attitude in Nasarawa State, Nigeria

Imran Sakirah Romoke¹; Panti Jesus Sarkwah²; Richard Goodnews Asukwo³; Omega Tony Arinze⁴; and Oluwadamilola Wasilat Muili⁵

¹Department of Educational Technology, National Open University, Wuse II, Abuja, Nigeria. ²Department of Community Mental Health, College of Health and Well-being, Kintampo, P.O. Box 9, Kintampo Bono East, Ghana. ³Department of Psychology, University of Uyo, Akwa Ibom State, Nigeria, Postal Box: P.M.B 1017, Uyo, Akwa Ibom State, Nigeria. ⁴Political Science Department, University of Nigeria, Nsukka, Nigeria. ⁵Department of Psychology and Curriculum Studies, University of Benin, Benin City, Edo State.

Corresponding author: imransakirah2019@gmail.com

DOI: <https://doi.org/10.62154/qjhcer.2024.017.010540>

Abstract

This study looks at the impact of e-learning on junior social studies students' performance and attitude in Nasarawa State, Nigeria. Using internet technologies to enhance performance and knowledge is known as e-learning. It allows the learner to adapt their experience to their learning goals by giving them control over time, pace, learning sequence, and content. To investigate how these activities affected the students' attitudes and academic performance, the study compared junior secondary school social studies students who only received in-person instruction in the classroom with those who engaged in WhatsApp mobile learning activities. A sample of 150 respondents was drawn from five public secondary schools; 100 students were used for the survey using a questionnaire, and 50 students were chosen for the experiment due to their availability and proficiency with WhatsApp mobile learning. SPSS software was used to analyze the data and produce descriptive and inferential statistics. Compared to the traditional learning approach, the results showed that the WhatsApp mode of learning resources greatly improved the comprehensiveness of social studies in the five chosen schools; it assisted the students in fully comprehending social studies. Additionally, it increases the student's self-assurance when expressing thoughts and opinions about social studies topics. As a result, it was suggested that the educational board's management, administrators, and stakeholders make investments in ICT integration, training, and infrastructure.

Keywords: E-Learning, Impact, Performance, Attitude, Junior Students, Social Studies, Nasarawa State, Nigeria.

Introduction

Teaching has become a noble profession in recent years, requiring qualified, imaginative, and creative educators who will broaden the knowledge base in the learning environment for the next generation through research, teaching, and educational workshops and seminars (Galle, et al., 2020). Even so, information and communication technology (ICT) tools have improved the teaching and learning process as a result of computer technology advancements. Such tools provide both students and teachers with more opportunities

than before adapting learning and teaching to individual needs and the society at large (Mikre, 2011). Information and communication technology, according to Ainsworth (2008) and Watson (2011), has changed how people work and educational systems by making information easily accessible, generating greater interest in learning materials, increasing retention of information, and making information sharing easier. Computer Aided Instruction is regarded as a crucial information and communication technology tool that educators can use to support successful learning and, in turn, generate interest, retention, and success in the material being taught. Visualization helps students understand the inner life and movement of an object; it helps clarify relationships through visual means; and it helps learners visualize things that are difficult to see in the real world (Ainsworth, 2008; Weiss, Knowlton, & Morrison 2012). According to Wang, Yang, and Umoren (2012), computer-assisted instruction has become more common and popular.

E-learning otherwise known as CAI refers to instruction or remediation presented on a computer (Wang, Yang, & Umoren, 2012). Computer programs are interactive and can illustrate a concept through attractive animation, sound, and demonstration. These allow students to progress at their own pace and work individually or problem-solve in a group. Computers provide immediate feedback, letting students know whether or not their answer is correct. If the answer is not correct, the program shows students how to correctly answer the question. Computer-assisted instruction has been found useful in engineering and, more importantly, as a veritable instructional tool (Ogu, 2003). The relevance of computer-assisted instruction packages in a classroom setting cannot be overstated. Computer usage as an educational aid has been effective in stimulating students' interest and retention as well as in providing individualized training at the students' own pace and direction (Brummer, 2014). Computer-assisted instruction provides additional information and give external support for mental simulations thereby allowing the learner to perform a higher amount of cognitive processing when used properly during instructions. Brummer (2014) used computer-assisted instruction to obtain interesting positive results in teaching and learning activities in various science and science-based courses.

E-learning tools are used to teach and learn social studies, one of the core subjects in the school curriculum. This helps students learn how to manage environmental resources for the best use and instils in them the proper attitudes, values, knowledge, and skills for good citizenship. Teaching social studies can readily make use of multimedia, which includes text, graphics, animation, photos, sound, and video clips. The learning process requires the use of graphics. The broad use of graphic devices, music, movement, and interactivity on a multimedia CD-ROM will be demonstrated through an examination of modern teaching methodologies. It should be mentioned that virtual reality systems can be used to teach students facts, which immerse them in a computer-generated environment with interactive, realistic three-dimensional scenes (Brummer 2014).

The current study will compare junior high school social studies students who would solely get in-person instruction in the classroom with those who would participate in WhatsApp mobile learning activities to see how the latter affects their attitudes and academic

performance. One of the newest developments in remote learning is mobile learning technologies. Because mobile learning leverages smartphone platforms for mobile virtual education and facilitates instant messaging through WhatsApp, the researcher takes into account the M-learning mode. This cross-platform smartphone messenger enables real-time social networking using the user's existing Internet data plan (WhatsApp, 2010). WhatsApp allows users to share and receive a wide range of media, including voice, video, and photo communications. To achieve the current experimental study's goals, the e-learning process created via WhatsApp mobile learning activities will be contrasted with another method in which students learn a social studies unit while just physically present in the classroom.

In addition to achieving the educational process's objective scientific and educational aims, teachers work to change their students' behavior. It allows teachers to organize the material in a way that will inspire and interest their pupils while taking into account their characteristics and underlying themes. Education is essential for providing the technical and scientific frameworks needed to raise awareness. As a result, modern communities expect educational institutions to satisfy the needs of modern creativity and knowledge, especially in the context of research (Alneyadi et al., 2023). Teachers now have more responsibilities than just instructing students. To help students differentiate between facts and reasoning, ascertain causality, draw conclusions, make predictions, and form opinions based on adequate evidence, it promotes a shift in the educational process that prioritizes the development of scientific thinking abilities. Additionally, outside of the classroom, critical thinking helps students solve problems in their daily lives (Tashtoush et al., 2022a, 2022b; Wardat et al., 2022).

Age, technological proficiency, and the caliber of e-learning resources and platforms can all affect how social studies students feel about online learning. While older students might require more assistance acclimating to e-learning, younger pupils who have grown up with technology might feel more at ease with it. Additionally, the caliber of the e-learning platform and materials may have an impact on students' attitudes toward e-learning. Students may see e-learning more favorably if the platform and its resources are interesting, interactive, and well-designed. Students may, however, be more inclined to see e-learning negatively if the platform and its contents are dull, out-of-date, or difficult to use. Additionally, students' learning preferences and styles may have an impact on how they feel about online learning. Some students might prefer the flexibility and convenience of online learning, while others might prefer the conventional classroom environment with in-person interactions. Overall, the attitudes of social studies students regarding online learning are probably complicated and multidimensional, based on a range of individual and contextual factors. The role of virtual learning in contemporary education is growing in importance. To guarantee that e-learning methods are efficient and interesting for every student, educators, and institutions must thus keep researching and refining them.

As a result, students in all subject areas—including social studies—have had to adjust to virtual learning settings. Numerous factors can affect how social studies students feel about

online education. Since e-learning lets students study at their own pace and on their own time, it could be more convenient and adaptable for some students. Some people can find e-learning less engaging or dynamic and prefer the conventional classroom setting. The particular course material and the instructor's teaching strategies may have an impact on how well social studies students do in online courses. Certain social studies courses might be more appropriate for online learning than others, and certain instructional strategies—like discussion boards, interactive activities, and multimedia resources—might be more successful in keeping students' attention in online learning settings.

Statement of the Problem

In the past, educators have been seen as knowledge archivists who pass on their expertise to their pupils. Thanks to technology, this is completely different now. However, the technological revolution has not greatly enthused most secondary school teachers. They still employ antiquated methods and question whether technology can effectively support learning goals. As e-learning technology gained popularity, certain vices that hinder academic endeavors also surfaced. Many students or young people would prefer to watch non-educational movies online and spend a significant amount of time on social media platforms like Facebook, WhatsApp, TikTok, Yahoo, Telegram, Snapchat, and others. This is how some students use e-learning materials, and it affects how well they do academically in social studies and education in general. Thus, this study explores how effective e-learning—specifically, WhatsApp—is at raising the academic performance and disposition of junior social studies students in Karu Local Government Area, Nasarawa State.

Objectives of the Study

The major objective of this study is to investigate the impact of e-learning on junior social studies students' performance and attitude in Nasarawa State, Nigeria. Meanwhile, the specific objectives of the study are:

- To evaluate the impact of e-learning on the academic performance of junior secondary school students in Social Studies.
- To examine how Social Studies students utilize e-learning resources to enhance their learning experience.
- To assess the attitudes of both students and teachers toward the adoption of e-learning in Social Studies instruction.
- To explore the influence of WhatsApp mobile learning on the academic performance and attitudes of Social Studies students.
- To identify the challenges faced by teachers and students in effectively utilizing e-learning for teaching and learning in Social Studies.

Research Questions

- How does e-learning affect the academic performance of junior secondary school students in Social Studies?
- To what extent do Social Studies students use online learning platforms to support their education?
- What are the attitudes of students and teachers toward e-learning in Social Studies?
- What are the effects of WhatsApp mobile learning on Social Studies students' academic performance and attitudes?
- What challenges do Social Studies students and teachers encounter in effectively using e-learning tools for teaching and learning?

Significance of the Research

The findings of the study might add to the body of knowledge promoting the use of ICT in Nigerian classrooms. Additionally, the potential impact of e-learning on student training and the reform of policies related to curriculum and e-learning in higher education. The study's findings will aid administrators, stakeholders, and management of Karu Local Government in comprehending the benefits of investing in ICT infrastructure, training, and integration into the classroom. The tool utilized in this study will be useful to graduate students and educational researchers because it can be applied to other studies in the future. E-learning has evolved since the use of technology in the classroom. Blended learning services, which combine computer-based exercises with real world, in-person, or classroom settings, are growing in popularity. New opportunities for digital transformation were made possible by the COVID-19 pandemic, including in the field of education. The learning management system (LMS) and other digital tools that allow schools to continue teaching even when classes are canceled are the results of this.

Literature Review

E-learning is characterized as the use of digital platforms, interactive software, and online resources to facilitate teaching and learning (Garrison & Vaughan, 2008). This mode of learning provides flexibility, multimedia content, and opportunities for personalized learning, which can enhance students' engagement and comprehension. Achievement in Social Studies refers to measurable outcomes in students' academic performance, often assessed through tests, quizzes, and assignments. Attitude encompasses students' dispositions, interests, and perceptions toward Social Studies as a subject, shaped by their learning experiences.

Theoretical Framework

Constructivist Learning Theory: This theory, advanced by Piaget (1970) and Vygotsky (1978), posits that learners construct their knowledge through interactions with their environment. E-learning environments provide rich, interactive platforms that encourage

active engagement, critical thinking, and collaborative learning among students. Through digital tools, Social Studies students can explore case studies, historical events, and simulations, enhancing their conceptual understanding and application.

Technology Acceptance Model (TAM): Developed by Davis (1989), TAM emphasizes the perceived ease of use and usefulness of technology as critical factors influencing users' attitudes and acceptance of technological innovations. For this study, TAM provides a lens to understand how students and teachers perceive and adapt to e-learning platforms, ultimately shaping the effectiveness of e-learning in improving attitudes and performance. The effect of intelligent applications on academic performance has been studied before. These studies have looked at how a range of innovative apps and digital platforms, such as Easy Class, Edmodo, Future Gate, Edraak, and Google Classroom, can be used to teach science, social studies, and citizenship (Al-Shamrani & Al-Ariani, 2020), biology, mathematics (Alnaabi, 2021), English (Aljaser, 2019), and chemistry (Chen & Liu, 2020). Additionally, smart technologies facilitate successful teaching strategies like the WebQuest strategy (Harahsheh, 2019) and computerized thinking map strategies (Shana, 2017), flipped classroom methodology (Ramadan, 2019) with augmented reality technologies (Chen & Liu, 2020). These apps are developed using the Android operating system (Eliyawati et al., 2020). According to Demir et al. (2018) (Alnaabi, 2021), technology aids students in developing healthy habits by enhancing their animation skills, cognitive abilities, and self-regulation for knowledge retention (Al-Jeriwi, 2020).

It has been demonstrated that some clever applications enhance cognitive function, self-regulation, and habit formation. It has been demonstrated that the Edmodo education platform (Al-Issawi & AlMoussawi, 2020), Future Gate (Al-Shamrani & AlAriani, 2020), and Easy Class platform (Alnaabi, 2021) can forecast students' cognitive progress and decreased anxiety levels. Beirne (2020) discovered that after utilizing the Edraak platform, fifty students' attitudes and academic performance improved. Al-Zoro (2020) also discovered that engineering students' problem-solving abilities were enhanced when they used the Edraak platform in math classes. Abu Suleiman (2019) used a sample of 66 students and discovered that teaching with the Edmodo educational platform improved the academic performance and motivation of female students in the third intermediate grade at al-Madinah al-Munawwarah. When creating animations, mobile learning applications improved the academic performance of Turkish university students (Demir et al., 2018).

Additionally, they enhanced the student's various intelligences (Zuaiter, 2015) and performance (Al-Amour & Alimat, 2016). In addition to encouraging students to master certain courses (like English), general learning platforms also enhance their performance, retention, critical thinking, and future-focused abilities. Students who were exposed to an online learning environment demonstrated greater enthusiasm for learning English and improved performance, according to Aljaser (2019). Sherif (2019) found that female students' ability to think creatively was enhanced through social learning networks that adapted different biological ideas. Nora and Snyder (2008) found that students exposed to

integrated e-learning demonstrated statistically significant differences in their accomplishment level, scientific thinking, and learning retention. Alsalhi et al.'s 2019 study discovered that integrated e-learning enhanced the academic achievement of scientific students. Al-Jeriwi (2020) asserts that the incorporation of artificial intelligence technology into online education has a good effect on the growth of future thinking abilities and scientific academic accomplishment.

In 2009, Al-Nasr discovered that the experimental group benefited from a teaching strategy that improved students' science operations skills through the use of computerized instructional materials. The teaching strategies recommended by learning platforms can improve students' practical performance as well as their critical thinking. According to Ramadan's research, the flipped classroom approach enhanced students' cognitive achievement and computer skills (Ramadan, 2019). Al-Rubaian (2017) found that students who took part in flipped classrooms did better academically and showed more capacity for critical thought. Al-Nawaisah and Abu Jaber (2020) found that students in Jordan's 10th grade learned more about chemistry when they used augmented reality techniques. Harahsheh (2019) study sought to determine the impact of the WebQuest approach on sixth-grade students in Jordan. The results demonstrated that students' creativity rose when teachers used the WebQuest method. However, Al-Abbas (2019) showed that students' social interactions were unaffected by instructional strategies like problem-centered learning. Using a sample of 49 eighth graders in Jordan, their study showed that students were exposed to a problem-centered learning approach.

Abu Farha (2015) found that using the robot toolkit (EV3) in conjunction with the STEM approach improved the performance of ninth-grade students in Jordan. The development of efficient and successful operating systems for online education has been the focus of other studies. An Android application developed by Eliyawati et al. (2020) demonstrated how effectively it described the different ways to represent acid-base chemistry. Research suggests that educational apps should be tailored to match students' learning abilities, such as focusing on their artistic skills or enhancing the content and overall learning experience. Effective apps are those that intelligently integrate content with symbolic representations. Omar (2016) discovered that students' cognitive processes, whether impulsive or deliberate, were not influenced by background color cues in digital images used in e-books.

Appraisal of the Reviewed Literature

This section examines empirical research undertaken by various researchers on the impact of e-learning and WhatsApp social learning on junior social studies students' academic performance and attitudes.

A study by Balogun (2019) sought to determine the impact of e-learning materials on the academic achievement of secondary school pupils in Ilorin, Nigeria. This study used a descriptive research design similar to a survey. The study's sample consisted of 330 teachers picked from ten public and private schools. The study's instrument included twenty (20) questionnaires designed to address the research objectives and hypotheses. The data was

presented and analyzed using descriptive statistics from frequency distribution analysis (FDA). The study discovered a positive and significant relationship between students' utilization of e-learning tools and their academic achievement. According to the study's findings, the utilization of e-learning tools has a significant impact on students' academic progress. As a result, it is established that e-learning tools will significantly improve students' interest in course material, promote learning, assist students, and encourage them to attain academic success. According to the report, secondary schools should encourage pupils to use technology and e-learning resources in order to significantly improve their academic performance.

Ari Saputra's study sought to ascertain the effect of online education on pupils' academic performance. Quantitative research using a single group pre-test and post-test design was the methodology employed in this study. A total of 43 students were enrolled, and the number of samples (population sampling) was equal to the population's sum. The study's sample was given pre- and post-tests in order to collect data. The effect of e-learning practices on students' English competency was examined using an F-test. According to the statistical analysis, the average score for the pre-test and post-test was 71.63, while the average score for the post-test was 80.23. The $F > F$ table was obtained by the current researcher using the F test at the 5% significance level.

Keerthi (2022) investigated how e-learning affected students' academic performance. E-learning is one of the most controversial ideas in the modern, international education sector. While some advocate online learning, others argue that it cannot replace traditional classroom training. E-learning has become essential for colleges worldwide in the present COVID context. This study has once again concentrated on the question of whether e-learning may improve students' performance. Three factors—technical competency, e-learning standards, and e-learning infrastructure—are chosen when identifying the same. It was discovered that e-learning can improve student performance across many universities and classes after gathering data and information from past empirical study initiatives. However, it was discovered that high technical competency and sufficiently effective e-learning materials were necessary for that positive performance. There are conflicting findings regarding infrastructure, with one study claiming that it is not essential for better performance and another claiming that it is crucial for better academic achievement. All things considered, this study found that, when used properly, e-learning can improve academic achievement.

Jain, Anand, and Gupta (2012) conducted a study that examined how social networking sites affect young people's shifting perspectives on social issues. According to the paper, women are particularly sensitive to the world's social issues, but men spend more time on social networking sites discussing these issues than women. Alneyadi et al. (2023) look into the potential effects of the WhatsApp app on the academic achievement of university students in Ghana. The study's sample consisted of 418 students, 276 of whom were female and 142 of whom were male. Using a questionnaire, the researcher gathered information from 418 students and conducted interviews with 50 of them. The study comes to the

conclusion that the WhatsApp app is necessary for rapid and efficient student-to-student communication because it allows students to share resources and information.

To investigate the potential effects of the WhatsApp app on learning. Tulika (2014) used two techniques to gather data from B.Ed. students at Maharshi Dayanand University in Haryana, India: interviews as a qualitative instrument and a questionnaire that 37 students filled out. According to the results, 56% of participants recognized WhatsApp's educational benefits, and 73% of participants saw it as a platform that allowed learning at any time. Furthermore, 64% of the students concurred that WhatsApp makes it easier to communicate and engage with others. All things considered, the study emphasized the app's adaptability as a critical component in improving communication and offering noteworthy educational advantages.

Additionally, students are motivated to engage with texts, utilize them effectively through tools such as WhatsApp, mobile cameras, and mobile note-taking, and critically analyze them (Hazaea and Alzubi 2016). Wahyuni et al. (2020) claim that when there are no time or physical barriers, students are less likely to feel psychological pressure from their peers, allowing them to study the reading materials more freely. Tangiduk, Samola, and Rorimpandey (2021) found that WhatsApp improves students' reading comprehension when they use descriptive texts. They continued by saying that by providing students with the opportunity to engage directly with teachers, they were able to have a positive impact on the ultimate learning outcome of reading comprehension.

Their findings suggest that the WhatsApp app may improve education (Smit 2012). Additionally, it encourages student interaction on academic, personal, and course-related subjects. According to Abdullah's (2017) research, academic performance is positively impacted by social media, and 57% of students say they prefer WhatsApp as a mobile app for learning. Ahmed (2019) claims that WhatsApp improves reading, comprehension, and article interpretation because it allows students to spend more time outside of the classroom, fosters natural communication, particularly in chats, and teaches them how to fix their mistakes by watching other students.

Research Methodology

The demographic, sample, sampling methods, research instrument, validity of the instrument, data collection process and data analysis process are all presented in this chapter.

Research Design

A descriptive survey is the type of research design used.

Population

The study's target audience is all junior secondary school students in the Karu Local Government Area of Nasarawa State. However, the junior secondary two (JS 2) students in this area were the study's target population. This is because JS 1 students are new to the

system, whereas JS 2 students are more reliable than JS 3. In the Karu Local Government Area, there are seven mixed public junior secondary schools with 2,567 students. As of the 2021–2022 school year, the target population was 440 students, 239 of whom were male and 201 of whom were female. (Source: Karu, AIE office).

Table 1: Distribution of target population by school and gender

Name of schools	No. of male JS2 students	No. of female JS2 students	Total
JSS Karu	40	20	60
JSS Bagaji	40	50	90
JSS Masaka	56	44	100
JSS Uke	50	30	80
JSS	53	57	110
Total	239	201	440

Source: Statistic Unit, Karu LGA (2022)

Sample and Sampling Techniques

This study's sample consisted of 150 respondents who were all junior secondary school social studies students. The basic random sampling methods of the fish bowl method without replacement were employed in this investigation. Five public secondary schools were chosen for the study using simple random sampling, and 50 students were chosen for the experimental group using the purposive sampling technique because they had access to mobile phones and could use the WhatsApp mobile learning system.

Research Instrument

A questionnaire served as the research tool in this study. It was created by the researcher in conjunction with the variables being examined, and the items included were selected based on the research questions. All of the intact classes in the chosen schools took the Social Studies Achievement Test (SSAT). The researcher used the survey questionnaire to learn what the students thought of both in-person classroom instruction and the use of WhatsApp for mobile social learning. The experimental group consisted of 50 pupils, while the control group had 100 students.

The respondents' biographical information, including their age, gender, and school name, is included in Section A. Information about the research topic is gathered in Section B.

Validity of the Instrument

The instrument underwent face and content validation to make sure it provided the data needed for this investigation. The researcher's supervisor and two additional educational technology specialists completed the instrument's face and content validity. The final version of the questionnaire reflected the noted corrections. Twenty of the thirty items that were originally drafted from the PAST BECE questions were ultimately chosen.

Procedure for data collection

With the assistance of one teacher from each school, the researcher distributed the questionnaires after gathering introductory letters from the National Open University of Nigeria's Faculty of Education. Due to their familiarity with the pupils, the teachers were utilized in their schools, thereby making filling out and collecting the questionnaires from teachers much easier. 150 questionnaires were administered, of which 100 were retrieved while some were reported missing. Therefore, 100 questionnaires were used for the analysis of this study.

Procedure for Data Analysis

In order to highlight important information, make recommendations, and aid in decision-making, this required the process of examining, cleaning, transforming, and modeling data. The mean and standard deviation were used to assess the research topics, and the independent sample t-test and the Pearson product-moment correlation statistic were used to test the hypotheses developed for the study at the 0.05 level of significance.

Data Analysis and Presentation of Results

The analysis of the information gathered via the administered questionnaire is the main focus of this chapter. The five research questions that served as the study's compass were adhered to when analyzing the data. For every item, tables displaying the frequencies and matching percentages were created. The respondents' backgrounds, how well e-learning affects junior social studies students' performance and attitudes, and how much e-learning improves their academic performance and attitudes.

Table 2: Sex of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	52	52.0	52.0	52.0
Female	48	48.0	48.0	100.0
Total	100	100.0	100.0	

The above frequency table reveals the gender of the selected respondents in this study; it shows that out of 100 questionnaires retrieved from the 5 secondary schools, 52 respondents are male, while 48 respondents are female. Hence, most respondents in this study are male.

Table 3: Class Distribution of the Students

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	JSS 2A	39	39.0	39.0	39.0
	JSS 2B	28	28.0	28.0	67.0
	JSS 2C	33	33.0	33.0	100.0
	Total	100	100.0	100.0	

The table above shows that from the five selected secondary schools, 39 respondents with 39% are in JSS 2A, 28 respondents with 28% are in JSS 2B, and the remaining 33 respondents are in JSS 2C.

Research question 1: What is the impact of e-learning on pupils' academic performance in junior secondary social studies classes?

Table 4: The impact of e-learning on pupils' academic performance in junior secondary social studies classes

N	Effectiveness of e-learning	N (%)	N (%)	N (%)	N (%)
	Item	SA	A	D	SD
1	E-learning has significantly impacted my overall academic performance in social studies.	71.0	10.0	4.0	15.0
2	Using WhatsApp-mode E-learning resources has enhanced my comprehension of Social Studies	61.0	38.0	1.0	0.0
3	My engagement with e-learning resources compared to traditional classroom learning is helping me grasp social studies topics.	72.0	10.0	4.0	14.0
4	Using online learning materials to study social studies brings about personalized learning experiences	65.0	10.0	4.0	21.0
5	E-learning resources promote independent and Self-directed learning in the context of learning Social Studies	66.0	25.0	0.0	9.0
6	E-learning resources offer a wider range of access to learning materials and digital skills	76.0	10.0	4.0	10.0
7	E-learning enhances students' understanding of social studies concepts.	65.0	28.0	1.0	6.0

The above table reveals that the majority of the respondents (65.0–76) strongly agreed that e-learning has significantly impacted their overall academic performance in social studies. (10.0–38.0) of the respondents agreed that using WhatsApp mode e-learning resources has enhanced their comprehension of social studies. However, a few students (0.0–4.0) disagreed that e-learning enhances students' understanding of social studies concepts. 0.00–21.0 strongly disagreed that e-learning resources offer a wider range of access to

learning materials and digital skills. Therefore, the school management should continue the e-learning in teaching social studies.

Research question 2: How much do social studies students use online learning resources to further their education?

Table 5: The extent of e-learning utilization in learning social studies

	Extents of e-learning utilization	N (%)	N (%)	N (%)	N (%)
N	item	SA	A	D	SD
8	I use WhatsApp as a learning tool several times a week for learning social studies outside of regular classroom hours	79.0	10.0	4.0	7.0
9	Collaborating with peers on WhatsApp Slightly impacted my skill ability to analyze and discuss social studies topics from diverse perspectives	80.0	10.0	3.0	7.0
10	I engaged in discussion forums through e-learning resources for studying social studies	80.0	10.0	4.0	6.0
11	Access to additional learning materials motivates me to use e-learning resources for social studies	79.0	10.0	4.0	7.0
12	I always interact effectively with my teachers during e-learning sessions for social studies.	69.0	10.0	4.0	17.0
13	Ability to receive completed or solved assignments on social studies lessons from friends from time to time through an e-learning platform	76.0	10.0	4.0	10.0

Of those surveyed, between 69.0 and 80.0 percent strongly agreed that they use WhatsApp as a learning tool multiple times a week, 10.0 percent agreed and confirmed that they participated in discussion forums using e-learning resources for social studies, 3.0 to 4.0 percent disagreed that having access to more learning resources encourages them to use e-learning resources for social studies, and 6.0 to 17.0 percent strongly disagreed that they always communicate effectively with their teachers during social studies e-learning sessions. Thus, it can be said that the five chosen schools' social studies curriculum is now much more comprehensive thanks to WhatsApp's learning resources.

Research question 3: What are the attitudes of students towards e-learning?

Table 6: The Attitude of Students towards E-learning.

		N (%)	N (%)	N (%)	N (%)
	Attitude	SA	A	D	SD
14	Am very comfortable expressing my thoughts and asking questions during virtual social studies lessons or discussions	78.0	10.0	4.0	8.0
15	The learning process used in social studies lessons through WhatsApp learning activities makes learning easy for me.	57.0	36.0	1.0	6.0
16	Adopting e-learning via WhatsApp learning activities in social studies lessons allows for increased student satisfaction	81.0	10.0	4.0	5.0
17	I believe that e-learning allows me to acquire new and innovative knowledge in social studies.	81.0	10.0	4.0	5.0
18	I would be interested in studying courses that use e-learning resources	71.0	23.0	0.0	6.0
19	I know that e-learning using social media process can enhance my learning experiences	83.0	10.0	4.0	3.0

According to the above table, among the 100 students selected from the five junior secondary schools in the Karu local government region, Nasarawa, 81.0 respondents strongly agreed that they are very comfortable expressing their thoughts and asking questions during virtual social studies lessons or discussions; 10.0 of respondents agreed that using e-learning via WhatsApp learning activities in social studies lessons increases student satisfaction; 4.0 respondents also disagree that the learning process used in social studies lessons through WhatsApp learning activities makes learning easier; and 5.0 respondents strongly disagreed with the survey questions. Therefore, the students have a comfortable attitude towards learning social studies through e-learning.

Research question 4: What are the positive impacts of WhatsApp mobile learning on social studies students' performance and disposition?

Table 7: Advantages of WhatsApp for mobile education

		N (%)	N (%)	N (%)	N (%)
	Positive Impact	SA	A	D	SD
20.	Problem-solving skills are encouraged in social studies classes that incorporate WhatsApp learning activities.	69.0	28.0	1.0	2.0
21.	WhatsApp-based learning positively impacted your understanding of social studies concepts	84.0	10.0	4.0	2.0
22.	WhatsApp mobile form of e-learning boosts my confidence in sharing options and ideas for social studies concepts	83.0	10.0	4.0	3.0
23.	Using e-learning resources for social studies lessons makes learning more enjoyable and reliable	84.0	10.0	4.0	2.0
24.	The ability to enrich written content, including social studies textbooks, with images, videos, and webpages from the internet.	83.0	10.0	4.0	3.0

The above table reveals that (69.0–84.0) of the respondents firmly believed that problem-solving is encouraged in social studies classes using WhatsApp learning activities; (10.0–28.0) of the respondents agreed that WhatsApp mobile form of e-learning boosts my confidence in sharing options and ideas for social studies concepts; (1.0–4.0) of those surveyed didn't agree that using e-learning resources for social studies lessons makes learning more enjoyable and reliable; (2.0–3.0) of the respondents strongly disagreed that ability to use internet photos, videos, and websites to enhance printed materials such as textbooks for social studies lessons. Therefore, the school management should focus more on the usage of WhatsApp-based learning since its application positively impacts the students' understanding of social studies.

Research question 5: What challenges do social studies students experience while using e-learning to learn their subjects?

Table 8: Challenges faced by social studies students towards utilization of e-learning in learning social studies.

		N (%)	N (%)	N (%)	N (%)
	Challenges	SA	A	D	SD
25.	I experienced technical issues such as internet connectivity and device problems while using e-learning resources in learning social Studies	84.0	9.0	4.0	3.0
26	Difficult to focus while learning social studies through e-learning as a result of distraction.	81.0	10.0	4.0	5.0
27	Experience difficulty navigating online platforms while using e-learning resources for social studies.	81.0	10.0	4.0	5.0
28.	Lack of interactive engagement constitutes a major challenge while using e-learning resources for social studies lesson	68.0	27.0	1.0	4.0
29.	Lack of parental support using their device for accessing social studies-related e-assignments.	82.0	10.0	4.0	4.0
30.	Low internet connectivity affects the quality of support received on social studies lessons through e-learning resources	72.0	9.0	4.0	15.0

The table shows that out of 100 students from the five chosen junior secondary schools in the Karu local government area, Nasarawa (68.0–84.0) respondents strongly agreed that they experienced technical issues such as internet connectivity and device problems while using e-learning resources in learning social studies, (9.0–10.0) agreed that difficulty in focusing while learning social studies through e-learning as a result of distraction, and (1.0–4.0) disagreed that Lack of parental support using their device for accessing social studies-related e-assignment. (4.0–15.0) strongly disagreed that low internet connectivity affects the quality of support received on social studies lesson through e-learning resources. Therefore, low internet connectivity affects the quality of support received on social studies lessons through e-learning resources. The school management should partner with telecommunications to install a 4G/5G internet connection to enhance the internet connectivity of the students.

According to the study's findings, 52 of the 100 questionnaires that were retrieved from the five secondary schools had male respondents, while 48 had female respondents. As a result, the majority of study participants are men. This result is consistent with research by Clariana & Schultz (1993) and Levine & Garden (1989), which found significant differences

favoring men in their surveys regarding attitudes toward new communication technologies, computer usage, and self-perceived computer experience.

Findings from research question one revealed that the majority strongly agreed that e-learning has significantly impacted their overall academic performance in social studies. Therefore, the school management should continue the e-learning in teaching social studies. Therefore, this finding is in line with Akinyemi's (1988) finding that e-learning helps learners to be more active in learning; its contribution to learning includes fastening various sensors, less mental drudgery, and learning independently.

Findings from research question two revealed that the respondent majority agreed that using WhatsApp as a learning tool several times a week makes them engaged in discussion forums for studying social studies. Therefore, it can be concluded that WhatsApp mode of learning resources has significantly enhanced interaction and comprehension of social studies in the five selected schools. This is in line with a study (2018), which found that WhatsApp application utilization helps in student's academic and group interaction.

According to the results of research question three, junior social studies students are highly engaged and feel at ease sharing their opinions and asking questions during online social studies classes or discussions. As a result, students have a positive attitude toward learning social studies online. The results are consistent with the findings of Alinalp and Gulbahar (2010), who found that WhatsApp applications can be used as a debate tool in higher education by both students and instructors. It can motivate students to take part in group projects and conversations.

The results demonstrated that WhatsApp mobile learning has a positive effect on achievement and attitude during social studies learning, in addition to answering research question four. The use of WhatsApp-based learning should therefore receive more attention from the school administration because it enhances students' comprehension of social studies. This is also consistent with research by Abdullahi (2017), which found that social media improves performance and that 57% of students said WhatsApp was their preferred smartphone app for academic purposes. Lastly, research question 5 confirmed that most junior social studies students faced problems during the utilization of e-learning in learning social studies and parental support using their devices for accessing social studies-related e-assignments with low internet connectivity. Hence, the school management should partner with telecommunication to install a 4G/5G internet connection to enhance the internet connectivity of the students and sensitize parental guidance on support for the children's assignments.

Implications of the Study

The study's findings and assignment align with constructivism and the humanistic approach of self-directed learning (SDL), which maintains that knowledge is generated via individual experience, maturity, and interaction with one's surroundings. According to Lee et al. (2017), a self-directed teacher can serve as a learning guide and assistant rather than a messenger and a source of knowledge. Since an e-learner attends a lecture just to take

notes on the time, location, and subject and to change the order of attending lectures, e-learning must be regarded as one of man's SDL methods. Since the learning progress evaluation method has been modified and in-person meetings with the teacher have been eliminated, proper student monitoring is more difficult than in the current offline educational system. As a result, managing one's capacity to plan, process, control, and organize one's own learning time is crucial.

Conclusion

The research came to a few conclusions. First off, junior social studies pupils in the Karu local government region of Nasarawa state have shown improved academic performance and attitudes as a result of e-learning. Second, the majority of respondents were male students, and most of them strongly agreed that using WhatsApp for learning activities improved their ability to solve problems together. However, they also reported that they had no parental support when using their devices to access social studies e-assignments with poor internet connectivity.

Recommendations

- The management of junior secondary schools should give more room for WhatsApp collaborative work among the students; this will give the students cutting-edge opportunities to discuss social studies from diverse perspectives.
- Stakeholders in education should adapt their curriculum to include digital resources in teaching social studies
- School management should sensitize the parent and community at large on the effectiveness of e-learning on the performance of the students through assistance in e-assignment.
- The state ministry of education should partner with telecommunications to install a 4G/5G internet connection to enhance the internet connectivity of the students.
- Educational stakeholders in Nasarawa State should support teachers in acquiring the relevant digital literacy skills.
- Administrators, stakeholders, and management of the educational boards should invest in ICT infrastructure, training, and integration into teaching and learning.

Suggestions for Further Studies

- Given the limited time, which cannot allow the researcher to conduct an elaborate study on the topic under investigation. The following are therefore suggested for further educational research
- Effect of ICT on the academic achievement of senior civic education students in AMAC area council.
- Educational technology as an enhancement tool for teaching and learning computer science in Karu local government area, Nasarawa State.

References

- Abdullah, A. & Azzedine, L. (2011). A novel outcome-based educational model & its effect on student learning. *Curriculum Development & Assessment. Journal of Information Technology Education*, 38 (3): 44-45.
- Ahmed, S. S. (2019). WhatsApp and Learn English: A Study of the Effectiveness of WhatsApp in Developing Reading and Writing Skills in English. *Journal on Interdisciplinary Studies in Humanities (ELS)*, 2, 148-156. <https://doi.org/10.34050/els-jish.v2i2.6419>
- Ainsworth, S. (2008). How do animations influence learning: Robinson, D.H. & Schraw, G. (Eds.). Recent innovations in educational technology that facilitate student learning. (pp. 37-67). Charlotte: InformationAge Publishing and Solomon publishing COY LTD.
- Al-Amour, Y., & Alimat, M. (2016). The effectiveness of the Google Classroom program on acquiring biological scientific concepts in the blood unit of tenth grade students in the Negev District in Palestine 48. *Journal of the Islamic University for Educational and Psychological Studies*, 24(4) 144-164. <https://doi.org/10.12816/0035582>
- Aljaser, A. M. (2019). The effectiveness of e-learning environment in developing academic achievement and the attitude to learn English among primary students. *Turkish Online Journal of Distance Education*, 20(2), 176-194. <https://doi.org/10.17718/tojde.557862>
- Al-Jeriwi, S. (2020). The effect of using artificial intelligence technology in the e-learning environment on developing future thinking skills and academic achievement in science for middle school students. *Tabuk University Journal of Humanities and Social Sciences*, 9, 261-289
- Alnaabi, F. M. (2021). The effectiveness of using the Easy Class platform to raise the achievement level in mathematics for second-grade students in basic education in the Sultanate of Oman. <https://drmahmoudelfaramawy.blogspot.com/2021/01/Easy-Class.html> Al-Nasr, W. (2009).
- Al-Nawaisah, S., & Abu Jaber, M. (2020). The effect of using augmented reality techniques in acquiring scientific concepts: An applied study on the chemistry curriculum for tenth-grade students. *Andalusia Journal*, 25(2), 271-290.
- Alneyadi, S., Wardat, Y., Alshannag, Q., & Abu-Al-Aish, A. (2023). The effect of using smart e-learning app on the academic achievement of eighth-grade students. *Eurasia Journal of Mathematics Science and Technology Education*, 19(4), em2248. <https://doi.org/10.29333/ejmste/13067>
- Al-Rubaian, W. (2017). The effectiveness of the flipped classroom on the Easy Class platform for developing critical thinking skills in the science course among middle school students in Riyadh. *Specialized International Educational Journal*.
- Al-Shamrani, A., & Al-Ariani, M. (2020). The effectiveness of using distance education platforms (Future Gate–United Education System) in developing cognitive achievement and reducing the level of test anxiety among middle school students in Jeddah. *The Arab Journal of Specific Education*, 4(15), 287-312.
- Beirne, E. (2020). What a feeling! A multistage, multimethod investigation of emotions and their antecedents in an Irish Language MOOC (Doctoral dissertation, Dublin City University).
- Brummer, L. (2014). Equipping foundation-phase learners for successful Computer-assisted instruction. Unpublished M.Ed thesis, University of South Africa.
- Chavan, S.B. (2018). The impact of WhatsApp Messenger usage on students' performance. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, pp 192- 196.
- Chen, S.-Y., & Liu, S.-Y. (2020). Using augmented reality to experiment with elements in a chemistry course. *Computers in Human Behavior*, 111, 106418. <https://doi.org/10.1016/j.chb.2020.106418>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.

- Demir, K., Demir, K., & Akpınar, E. (2018). The effect of mobile learning applications on students' academic achievement and attitudes toward mobile learning. *Malaysian Online Journal of Educational Technology*, 6(2), 48-59. <https://doi.org/10.17220/mojet.2018.02.004>
- Eliyawati, E., Agustin, R. R., Sya'bandari, Y., & Putri, R. A. H. (2020). Smartchem: An Android application for learning multiple representations of acid-base chemistry. *Journal of Science Learning*, 3(3), 196-204. <https://doi.org/10.17509/jsl.v3i3.23280>
- Galle, S. A., Agahu, I. S., & Tigga, M. R. (2020). Impact of Instructional Materials on Students' Academic Performance in Quantitative Economics in North-West State Colleges of Education, Nigeria. *Quest Journals Journal of Research in Humanities and Social Science Volume 8 ~ Issue 12 (2020) pp: 01-10 ISSN(Online):2321-9467* www.questjournals.org
- Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.
- Gibson, C. C. (1998). The distance learner's academic self-concept. In C. C. Gibson (Ed.) *Distance learners in higher education: institutional responses for quality outcomes* (p. 65-76). Madison, WI.: Atwood Publishing.
- Hazaea, A. N., & Alzubi, A. A. (2016). The Effectiveness of Using Mobile on EFL Learners' Reading Practices in Najran University. *English Language Teaching*, 9, 8-21. <https://doi.org/10.5539/elt.v9n5p8>
- Jain MR, Anand, N. Gupta P (2012) Impact of social networking sites in the changing mindset of youth on social issues- A study of Delhi-NCR youth. *Journal of Arts, Science & Commerce* 3: 36-43.
- Mikre, F. (2011). The roles of information communication technologies in education: review article with emphasis to the computer and internet. *Ethiopia J. Educ. & Sci.*, 6(2), 1-16.
- Nora, A., & Snyder, B. P. (2008). Technology and higher education: The impact of e-learning approaches on student academic achievement, perceptions and persistence. *Journal of College Student Retention: Research, Theory & Practice*, 10(1), 3-19. <https://doi.org/10.2190/CS.10.1.b>
- Ogu, M. N. (2003). Popularizing the use of computer as instructional tool in secondary school Physics in Nigeria. In M.A.G Akale (Ed). *ICT and STM Education: STAN Proceedings of the 44th Annual Conference*, 241-243. Ibadan: Heinemann Educational Books (Nig) Ltd.
- Piaget, J. (1970). *The science of education and the psychology of the child*. Orion Press.
- Sherif, A. (2019). The effect of educational platforms in modifying alternative biological concepts and developing creative thinking skills for ninth grade students in light
- Smit, I. (2012). WhatsApp with BlackBerry; Can messengers (BBM) be MXit? In *Proceedings of the 14th annual conference on World Wide Web applications*. Cape Town, South Africa: Cape Peninsula University of Technology. Retrieved from <http://hdl.handle.net/10394/13628>.
- Tashtoush, M. A., Wardat, Y., Aloufi, F., & Taani, O. (2022a). The effect of a training program based on TIMSS to developing the levels of habits of mind and mathematical reasoning skills among preservice mathematics teachers. *EURASIA Journal of Mathematics, Science and Technology Education*, 18(11), em2182. <https://doi.org/10.29333/ejmste/12557>
- Tashtoush, M. A., Wardat, Y., Aloufi, F., & Taani, O. (2022b). The effectiveness of teaching method based on the components of concept-rich instruction approach in students achievement on linear algebra course and their attitudes towards mathematics. *Journal of Higher Education Theory and Practice*, 22(7). <https://doi.org/10.33423/jhetp.v22i7.5269>
- Tulika, B., and Dhananjay, J. (2014). A Study of Students' Experiences of Mobile Learning. *Global Journal of Human-Social Science: H Interdisciplinary* 4(14) 27-33.
- Wahyuni, N., Nulpahmi, S., & Awaliah, I. M. (2020). The Students' Perception toward Using WhatsApp in Learning Reading. In *Proceedings of the 2nd International Conference on English Language Education (I CONELE) 2020* (pp. 310-323). Universitas Islam Negeri (UIN) Alauddin.

- Wang, A. R., Yang, Y., & Umoren, E. (2012). A computer assisted instruction system with a vision-based interactive interface for children. *International Journal of Humanities and Arts Computing* 6.1–2 (2012): 172–183.
- Wardat, Y., Belbase, S., Tairab, H., Takriti, R. A., Efstratopoulou, M., & Dodeen, H. (2022). The influence of school factors on students' mathematics achievements in trends in international mathematics and science study (TIMSS) in Abu Dhabi Emirate Schools. *Education Science*, 12, 424. <https://doi.org/10.3390/educsci12070424>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press
- Watson, D.M. (2011). Pedagogy before technology: re-thinking the relationship between ICT and teaching. *Education & Information Technologies*, 6, 251-266.
- Weiss, R.E., Knowlton, D.S. & Morrison G.R. (2002). Principles for using animation in computer based instruction: theoretical heuristics for effective design. *Computers Human Behaviour*, 18, 465-477.
- Zuaiter, B. (2015). The effectiveness of using software based on multiple intelligences in acquiring scientific concepts for fifth grade students [Unpublished master's thesis]. University of Jordan.