

Enhancing Collaborative Teamwork to Improve Learning Through Digital Education in Secondary Schools

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Abstract

The study examined Enhancing Collaborative Teamwork to Improve Learning through Digital Education in Secondary Schools in Uyo Metropolis, Nigeria. The objectives of the study were to examine the impact of Smart classroom, digital libraries and Smart devices on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria. Three research questions guided the study. The study was a survey design. 350 students constituted the population of the study while 300 students were selected as sample size through the stratified simple random sampling technique. Regression analysis was used to answer the research questions. The result of the study showed that Smart classroom, digital libraries and Smart devices all have significant impact on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria.

Keywords: *Collaborative Teamwork, Digital Education, Smart classroom, digital libraries, Smart devices*

Introduction

The need for the implementation of digital education among secondary schools continue to raise significant attention of government and educational stakeholders. This due to the fact that traditional teaching method of teacher centeredness with chalk and black board do not have the full capacity to actualize improved student learning and academic performance towards achieving the modern educational goals and objectives.

Collaborative learning has been seen as one of the key strategies for improving student learning and academic results, which digital technology can accomplish more readily than traditional teaching methods. Collaborative learning can take place in bigger groups or among peers. Peer learning, often known as peer instruction, is a kind of cooperative learning in which students exchange ideas or work through issues in small groups or pairs. Educational experts have discovered that through peer instruction, students teach one other by addressing misunderstandings and clearing misconceptions, which is similar to the notion that two or three heads are better than one. Yes, (2023). A type of learning called collaborative learning promotes social contact and teamwork. Colleagues or students can ask each other questions, exchange ideas, and provide comments to help guide one other's learning as they collaborate in groups. Small, pre-selected teams are the ideal setting for collaborative learning. Jennifer, the year 2023. Collaborative learning entails solving problems or comprehending concepts in a group setting. When this method of learning is implemented in the classroom, students are guaranteed to stay interested in the material, think critically, and collaborate with their peers. Developing higher order thinking, oral communication, self-management, and leadership abilities; encouraging student-faculty engagement; raising student retention, self-esteem, and accountability are some of the advantages of collaborative learning. exposure to and a deeper comprehension of many viewpoints as well as readiness for social and professional circumstances that arise in real life. Study groups, project groups, puzzle or problem-solving groups, writing groups, discussion groups, debate or Socratic circle groups, and peer editing groups are a few instances of cooperative learning teams. Participatory role-playing.

According to Sharma Shubh (2023), digital education is the application of technology to education through the use of digital tools, online platforms, and interactive content to provide high-quality education to all people, bridge geographic gaps, and develop a generation of well-rounded skills for a globalized world. The quick adoption of internet connectivity and technology has made this possible. This innovative approach to teaching and learning has the potential to transform the way individuals learn, produce more individualized learning opportunities, and open up the educational system to a wider range of learners. The use of various digital tools and technology in the classroom to enhance student learning and outcomes is known as "digital education." It makes use of software, interactive information, and digital devices to make teaching and learning easier. This approach makes use of the possibilities of digital tools to improve the efficiency, individualization, and engagement of learning. The utilization of learning tablets, digital libraries on tablets, smart classrooms, and educational mobile apps are the main components of digital education. These technologies are meant to give students access to a wide range of learning materials, interactive exercises, and content that extends beyond textbooks and typical classroom instruction.

The phenomenon known as "Digital Education" was born out of the intersection of technology and education in the fast-paced twenty-first century. This paradigm change signifies a move away from conventional teaching techniques and toward a cutting-edge strategy that makes use of digital tools and technologies. Sharma Shubh (2023)

A new era of educational innovation has been brought about by the digital revolution, which has transformed traditional classrooms into dynamic, interactive learning environments. The smooth integration of digital gadgets, software programs, and interactive information forms the basis of this change. With the ability to provide students with a more individualized, effective, and interesting learning experience, these digital tools surpass the constraints of traditional training. The phenomenon known as "Digital Education" was born out of the intersection of technology and education in the fast-paced twenty-first century. This paradigm change signifies a move away from conventional teaching techniques and toward a cutting-edge strategy that makes use of digital tools and technologies. Sharma Shubh (2023)

A new era of educational innovation has been brought about by the digital revolution, which has transformed traditional classrooms into dynamic, interactive learning environments. The smooth integration of digital gadgets, software programs, and interactive information forms the basis of this change. With the ability to provide students with a more individualized, effective, and interesting learning experience, these digital tools surpass the constraints of traditional training with DIY activities and life lessons. All in all, it improves the interaction and engagement of the learning objectives. A real-time progress-tracking function is included with every one of iPrep's digital learning products, including smart classes, digital libraries, learning tablets, learning apps, and PAL apps. Every contact with the learning platform iPrep is tracked, and these usage records are easily accessible through the My records section. Once the devices are linked to the internet, these usage records instantly sync to our central reporting dashboard, known as the iPrep Reporting Dashboard. facilitating easy remote access to the use reports.

A comprehensive approach to learning is made possible by digital education, which offers a wide range of resources beyond traditional textbooks. It includes a range of educational materials, such as films, interactive courses, multimedia information, and assessments that are completed in real time. This multimodal method addresses different learning styles and intelligences to accommodate each student's unique abilities and preferences. Sharma Shubh (2023). Consequently, learners can get a comprehensive understanding of several subjects and foster creativity, critical thinking, problem-solving abilities, and practical application of acquired knowledge. With the complexity of today's world and the need for multidimensional abilities to succeed, this all-encompassing approach equips students for success. Every digital education-related product offered by iPrep also adopts this all-encompassing strategy. We truly feel that meeting the needs of students on an individual basis requires more than just attending to the learning component. In light of this, we offer holistic growth content in addition to iPrep's digital learning content. This content includes an extensive book collection filled with books on personal development, narratives and picture books, motivational biographies, and interactive lessons for holistic learning and growth.

There is potential for digital education to greatly enhance students' learning outcomes. Teachers can develop and implement cutting-edge teaching techniques that connect with today's tech-savvy

kids with the help of digital tools. Real-time assessments, animations, and interactive content not only hold students' interest but also encourage deeper understanding and active involvement. Shubh Sharma, (2023). The capacity to monitor advancement, pinpoint areas requiring improvement, and furnish prompt input is an additional factor that enhances educational results. Students' overall academic performance and information retention are expected to improve as they become more deeply engaged with the material and have a greater understanding of topics. This will promote a culture of ongoing learning and development. Sharma Shubh (2023).

Solutions for digital learning are well-suited to provide improved learning outcomes at home and in classrooms. At the forefront of the digital education revolution are smart classrooms, which have replaced traditional chalkboards with interactive flat screens, digital whiteboards, or smart TVs loaded with multimedia-rich information and textbooks. These technological wonders help teachers make complex ideas more relatable by providing practice with rapid feedback, notes, and evaluations, along with fascinating real-life link animations. Similar to this, students can study and grow indefinitely with iPrep Digital Class since it includes a vast and extensive collection of digital learning content and holistic growth content. For a data-driven approach to teaching and learning, the finest element is that the content is fully offline and includes a real-time usage monitoring system that provides us with classroom-specific usage reports. Students' direct participation in these immersive environments in real time fosters a deeper comprehension of the material, turning classroom instruction into a cooperative and dynamic process. As a result of the digital revolution, students now have access to an extensive collection of instructional resources through digital libraries or ICT Labs, which are based on PCs, laptops, tablets, or other comparable devices like Android Notebooks, Chromebooks, or Primebooks. These gadgets are brimming with digital content that caters to different learning styles, such as multimedia, textbooks, tests, and so forth. These are also simple to use, manage, and set up. Education in schools and institutions has changed as a result of the introduction of new technology-assisted learning tools like mobile devices, tablets, laptops, smartboards, MOOCs, simulations, dynamic visualizations, and virtual laboratories. Research has demonstrated that one of the most economical ways to educate developing minds is through the Internet of Things (IoT). Students have an interesting learning experience when technology is incorporated into the classroom, which keeps them focused and engaged in the material. The use of computers, projectors, and other state-of-the-art technology in the classroom has the potential to make learning engaging and enjoyable for students. By assigning assignments that use digital resources, oral presentations, and group projects, teachers can make their students' education more dynamic and interesting. Involvement might go beyond just talking to someone. Shubh Sharma, (2023). The study seeks to examine the how digital education involving the use of smart class room, digital library and smart devices can enhance collaborative team work and improved learning outcome. Hence the study on Enhancing Collaborative Teamwork to Improve Learning through Digital Education in Secondary Schools in Uyo Metropolis, Nigeria

Objectives

The main objectives of the study is to examine Enhancing Collaborative Teamwork to Improve Learning through Digital Education in Secondary Schools in Uyo Metropolis, Nigeria.

The specific objectives are;

1. To determine the impact of Smart class room on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria
2. To determine the impact of digital libraries on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria
3. To determine the impact of Smart devices on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria

Research Questions

The research questions which guide the study are

1. What is the impact of Smart class room on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria?
2. What is the impact of digital libraries on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria?
3. What is the impact of Smart devices on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria?

Methods

This section presents the study's methodology. The components of the research design include the study region, study population, sample and sampling methods, data collection instrument, validation and reliability of the instrument, data collection method, and data analysis method.

Design of the Study

The survey design that was selected for the study included the creation and administration of questionnaires in order to gather the data that would be examined. According to Jessica G. Mills (2021), survey design is a sort of research design in which surveys are the primary technique of acquiring data. Surveys are used in this study as a method to assist researchers in comprehending individual or group viewpoints on a particular concept or issue of interest. A survey usually consists of a set of structured questions, each meant to extract a specific piece of information. The Instruments applied in this survey seeks to elicit information on Enhancing Collaborative Teamwork to Improve Learning through Digital Education in Secondary Schools in Uyo Metropolis, Nigeria.

Area of the Study

The study focused on examining Enhancing Collaborative Teamwork to Improve Learning through Digital Education in Secondary Schools in Uyo Metropolis, Nigeria. The investigation was conducted in the Uyo local government area, the state capital. While the majority of people in the research area work in trade and agriculture, a lesser minority are employed in politics and the public sector. In addition to Christian religious traditions, Uyo is also home to a diverse range of cultural beliefs. Uyo Local Government is home to the Ibom Air, the Goodwill International Stadium, and other important state infrastructures. It also has the greatest concentration of secondary schools in the state.

Population of the Study

The study population was made of 350 SSS11 students drawn from five selected schools in Uyo local government area as shown in Table 1

Table 1: Population Distribution of School in Uyo LEC

S/N	Name of Schools	No of Students
1	Community Secondary School, Aka Offot Uyo	80
2	Community secondary school Mbak Ekpe	75
3	Community secondary school Four towns, Uyo	60
4	Christian secondary school, Uyo	75
5	Itam secondary school	60
	Total	350

Source: Field Survey, 2024,

Sampling and Sampling techniques

A total of 300 SSS11 students were selected as sample size for the study using the stratified simple random sampling technique as shown in table 2

Table 2: Sample Distribution

S/N	Schools	Sampled pupils
1	Community Secondary School, Aka Offot Uyo	65
2	Community secondary school Mbak Ekpe	70
3	Community secondary school Four towns, Uyo	55
4	Christian secondary school, Uyo	53
5	Itam secondary school	57

	Total	300
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Source: Field Survey, 2024

Instrument for Data Collection

The instrument used for the inquiry was composed of Sections A, B, and C. Multiple-choice questions in Sections B and C of the questionnaires were designed to extract data on Enhancing Collaborative Teamwork to Improve Learning through Digital Education in Secondary Schools in Uyo Metropolis, Nigeria. Section A contained the biographical information of the respondents. Respondents were asked to rate the questionnaire on a four-point scale by selecting one of the following options from the list.

- 1----- Agree (A),
- 2-----Strongly Agree (SA),
- 3----- Disagree (D),
- 4----- Strongly Disagree (SD).

Validation of the Instrument

Researchers in the form of lecturers validated the tools to ensure that the questions on the questionnaire were clear and valid.

Reliability of the Instrument

To ensure the dependability of the instrument, a test-retest reliability procedure was employed. Test takers included fifteen students who were not part of the original study group. The same students were given the same tests again two weeks later. The scores obtained for the two administrations were statistically analyzed by calculating their variances. The ratio of the two variances was used to determine the reliability of the instrument. Reliability coefficient ratio of 0.88 was used to evaluate the survey's internal consistency.

Administration of the Instrument/Method of Data Collection.

The researcher had direct control over the distribution, delivery, and collection of the surveys. This strategy reduces the possibility of missing some of the instruments, which is beneficial to the researcher. 300 copies of the questionnaires were successfully distributed and retrieved.

Method of Data Analysis

The R^2 value Regression analysis was used to answer the research questions

Results and Discussion

The result of the study showed that;

1. There is significant impact of Smart class room on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria
2. There is significant impact of digital libraries on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria
3. There is significant impact of Smart devices on Collaborative Teamwork and Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria

A new era of educational innovation has been brought about by the digital revolution, which has transformed traditional classrooms into dynamic, interactive learning environments. The smooth integration of digital gadgets, software programs, and interactive information forms the basis of this change. With the ability to provide students with a more individualized, effective, and interesting learning experience, these digital tools surpass the constraints of traditional training. By transforming instructional materials into interactive experiences that hold students' attention and encourage deeper understanding, digital education brings learning materials to life. All of it is happening at the same time that it is continuously recording everything. Using digital tools increases student engagement and facilitates greater interaction. Multimedia components, MCQ-based practice, animations, and interactive courses help students understand difficult ideas more quickly. In addition to increasing motivation and participation, such a dynamic learning environment can lead to a deeper understanding of the subject matter.

Conclusion

The study concludes that digital education significantly Enhances Collaborative Teamwork to Improve Learning in Secondary Schools in Uyo Metropolis, Nigeria. Hence the need for schools to deploy digital technologies in improving the students learning and academic performance.

Recommendations

Based on the findings the following recommendations are provided

1. Schools should deploy the use of digital technologies for the implementation of digital education to enhance students learning and academic performance.
2. Students should be assessed on their competencies on the use of digital technologies so as to ensure that the goal of digital education is achieved.
3. Students should also be trained on the use of digital devices for learning and academic performance.

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