



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**

# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 7, July 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

9940 572 462

6381 907 438

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[www.ijirset.com](http://www.ijirset.com)

# Future of Computer Assisted Education

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**ABSTRACT:** The aim of this research is to delve deeper into the novel teaching approach facilitated by computers and their technologies, providing unique insights into the progress and continuous achievements of computer-assisted learning. Computer-assisted education entails the utilization of computers and their peripherals in the realm of education. It does not imply the replacement of instructors, but rather the utilization of digital tools and software, such as interactive courses, videos, and online tutoring, by educators to teach students. This study demonstrates the significant reliance on computer-assisted education, particularly during times of a pandemic, highlighting that without it, pursuing studies and acquiring an education would have been unfeasible. The global embrace of computer-assisted education exemplifies the acceptance of this new technological advancement. The objective of this research is to examine the efficacy and accomplishments of computer-assisted education.

**KEYWORDS:** Computer Assisted Education, Education, Technology, Computers in education.

## I. INTRODUCTION

**"Education is a passport to the future, for those who prepare for it today will have it tomorrow." Malcolm X.**

Education shapes the trajectory of our lives, extending far beyond fleeting moments and impacting us indefinitely. While everyone possesses potential, not all individuals possess the knowledge of how to harness their abilities effectively. Education acts as a driving force, illuminating our path and guiding us towards the right direction. A well-educated person possesses the power to reshape the world through their thoughts and knowledge, whereas ignorance only serves to hinder society's progress. Education serves as the foundation of society, and the government recognizes the imperative of bolstering the educational system and its related sectors. While education was once predominantly centered around books and publications, it has evolved alongside the changing world. We are now transitioning from traditional books to computers and digital devices as means of acquiring knowledge, skills, and information.

Among the many invaluable blessings of the digital age, computer-assisted schooling stands out prominently. With a simple click, we gain access to a vast encyclopedia of knowledge. Computer-assisted education refers to the acquisition of knowledge through the use of technological devices and resources. No longer are individuals solely reliant on books and traditional educational institutions for learning and information. Technology is harnessed in every domain of education, be it medical or civil, enabling individuals to acquire knowledge in any field.

Virtual learning is gradually supplanting traditional classroom instruction in numerous schools and institutions. Computers facilitate smart classrooms, video lectures, online and offline multimedia resources, web-based classrooms, and an array of other services. Computer-assisted education simplifies the process of acquiring and comprehending educational material. It allows for visually engaging presentations that aid in clarifying complex topics.

Smart classrooms, recorded videos, PowerPoint presentations, Zoom lessons, educational games, and online courses represent just a few examples of the diverse array of computer-assisted teaching approaches available.

### A. Smart Classes

When incorporating smart classrooms, the educational material becomes captivating and captivating, making learning more appealing for students. The utilization of photographs, maps, audio-videos, graphics, and flowcharts enhances the classroom experience. Moreover, it has been observed that this approach greatly facilitates children in comprehending subjects and retaining information for extended periods of time.

In line with these advantages, a Gallup poll revealed that the implementation of smart technology in schools and universities resulted in a notable 55% increase in student engagement. Remarkably, the adoption rate of smart classrooms has soared to 70%, encompassing both public and private educational institutions. Additionally, this innovative technology effectively addresses concerns of sustainability and environmental conservation. Smart courses contribute to the "go green" movement by reducing paper usage and promoting efficient time management for both teachers and students.



With these advancements, education embraces an exciting transformation, harnessing the potential of technology to create immersive and sustainable learning environments.

### **B. Zoom**

In this epidemic condition that is wreaking havoc on the entire planet, not only economics but even the education sector are suffering. Zoom, for example, was a much-needed programme. Zoom enables the development of a virtual classroom in which up to 100 individuals can participate, facilitating continuous learning. Education and learning have no bounds, which explains the popularity of computer-assisted technology.

### **C. Online Courses**

In a time characterized by escalating competition, shrinking global boundaries, and fierce rivalry, it has become crucial for individuals to continuously update their knowledge and skills. Fortunately, several online platforms such as Coursera, Alison, Internshala, Khan Academy, Udemy, edX, and numerous others offer a wide range of learning opportunities to meet this demand.

## **II. LITERATURE REVIEW**

Experimenters have conducted numerous trials to explore the impact of computer usage in the realm of education, spanning areas such as reading skills, literature, and instructional methodologies. Learning and technology have long been interconnected, but in our current digitalized age, the convergence of the world, technology, and education has become more apparent than ever before. Many institutes and professors have begun to use computer technology in the classroom to instruct pupils. Technological improvements include videos, audios, online classrooms, and smart lessons. They have replaced long, boring chalkboard lectures with simple, stunning computer presentations and flicks. The use of computers in teaching has had an influence. Participation of students in higher education settings This type of education needs the use of certain hardware, software, and processing capabilities on a computer or associated devices. In my literature review, I conducted research and analyzed various publications from the past five years. From the search, the top five technologies that emerged were as follows:

- **Web conferencing**
- **Zoom call**
- **Online classrooms**
- **Online courses**
- **Blogs**
- **Wikipedia**
- **Social networking sites**

Computers have emerged as a means of addressing the limitations of traditional educational methods. They offer a promising approach to teaching that traditional methods may not be able to achieve. Computers provide an educational environment in which instructors can create tailored learning experiences, identify students' abilities and talents, and engage in teaching activities that involve practice, repetition, and customization based on individual capabilities.

In Peter Scrimshaw's (2004) research on "Enabling Teachers to Make Successful Use of Information Communication Technologies," he examined the essential characteristics that play a crucial role in inspiring and empowering teachers to effectively utilize ICT. The study involved an online survey, where six participants were asked to explore the Becta research website and identify the factors influencing their use of ICT in the classroom. The research highlights the need for significant changes in teachers' behaviors and habits to adapt to the evolving technological landscape.

## **III. PROBLEM DEFINITION**

Contrary to the assumption that computers will eventually replace instructors, they actually serve as a valuable teaching tool that many institutions utilize to enhance the learning experience. Computer-assisted education brings clarity, simplicity, and enjoyment to the educational process. It benefits both instructors, who find it convenient to use computer-based resources such as videos, and students, who find it easier to grasp concepts.



Computer-assisted education has become the predominant approach employed by educational institutions today. It encompasses a wide range of applications, including smart classrooms, live lectures, online courses, internet research, educational games, assessments, and listening exercises.

The advantages of computer-assisted education are as follows:

**A. Progress Tracking**

It enables students to monitor their daily progress and evaluate their learning journey.

**B. Simplifying Complex Concepts**

It breaks down complex topics into smaller components, making them more accessible and easier for students to comprehend.

**C. Engagement for Students**

It captivates and engages students, particularly children, making the learning process intriguing and enjoyable.

**D. Individualized Learning**

It caters to the individual needs and learning styles of students, allowing for personalized instruction.

**E. Active Participation**

It promotes active involvement in the learning process, empowering students to actively participate and contribute to their education.

**F. Language Choice**

It provides flexibility in language selection, enabling students to learn in a language that suits them best.

Overall, computer-assisted education brings numerous benefits, enhancing the educational experience for both instructors and students alike.

**IV. OBJECTIVES**

The objective of this study is to investigate the impact of computer-assisted education on students during computer sessions, as well as their attitudes towards computers. The primary objective of this study is to investigate potential variations in academic achievement among students who undergo computer courses taught through computer-assisted instruction versus those who excel in the practical implementation aspect of the cognitive domain, in comparison to students who partake in computer courses taught via computer-based instruction.

Additionally, the study seeks to explore whether there is a difference in computer attitudes between students who undergo computer courses utilizing computer-assisted instruction and those who undergo computer courses utilizing computer-based instruction.

Furthermore, the study aims to analyze the persistence and success of computer-assisted education during periods of global lockdown and the challenging circumstances of a deadly pandemic.

In conclusion, the study endeavors to evaluate the overall efficacy of computer-assisted education in contemporary times by analyzing its results and influence on students' educational journeys. Through the exploration of these research inquiries, the study aims to offer valuable perspectives on the outcomes, attitudes, and effectiveness of computer-assisted learning in diverse settings and situations.

**V. RESEARCH METHODOLOGY**

This research paper presents an exploratory descriptive study with the objective of investigating the distinctive qualities and influential factors that contribute to the achievement of computer-assisted education. It delves into the growth and advancements of computers in the field of education, highlighting their role in accelerating the learning process.

The study primarily relies on secondary data, which includes previously collected information from research papers and similar sources. By utilizing secondary data, the report draws upon a wealth of existing knowledge and findings to inform its analysis.



Given the scope of the research, which encompasses the entire economy, a large number of samples are included in the study. This approach proves beneficial in providing a comprehensive understanding of the topic at hand.

Overall, this descriptive study leverages secondary data to shed light on the various aspects and implications of computer-assisted education, presenting a thorough analysis of its impact and effectiveness in the educational realm.

## **VI. LIMITATIONS**

Limitations exist in relation to the impact of technology access on research and the implementation of computer-assisted education. One limitation is that the lack of technology in rural areas can limit the generalizability and applicability of research findings to urban populations. This disparity in technology access may result in research primarily focusing on urban areas where technology infrastructure is more prevalent. As a result, the specific challenges and needs of rural communities may be underrepresented in the research literature.

Another limitation is that computer-assisted education heavily relies on modern and efficient technology for its successful implementation. This requirement can pose challenges in areas with limited technological resources or unreliable internet connectivity, particularly in rural or remote regions. The dependence on advanced technology can hinder the widespread adoption and effectiveness of computer-assisted education in such areas.

Additionally, research in the field of computer-assisted education is reliant on the data that is obtained. While data-driven research is valuable, the availability and quality of data can vary. Obtaining comprehensive and representative data on the impact and outcomes of computer-assisted education may be challenging due to factors such as limited access to technology or difficulties in data collection in certain contexts.

Recognizing these limitations is crucial in understanding the scope and applicability of research findings in the field of computer-assisted education. Efforts should be made to address technology disparities, enhance infrastructure in rural areas, and ensure that research efforts encompass diverse populations to create a more inclusive and comprehensive understanding of the benefits and challenges of computer-assisted education.

## **VII. ANALYSIS**

Upon analysis, it becomes evident that computer-assisted education does not imply the replacement of instructors but rather their utilization of computers and technology in the classroom. The impact of computers extends across various fields of study, ranging from science to medicine, making it a versatile and successful educational enhancement.

The advent of new applications such as Zoom and Microsoft Teams has played a significant role in the success of computer-assisted teaching. These tools have revolutionized the educational sector, offering dynamic, feasible, and engaging learning experiences. Instructors are benefiting from these technologies as they facilitate the delivery of content and create interactive learning environments.

Notably, the integration of internet resources like YouTube and Google Classroom further enhances the educational experience. Dr. Anjum Padyal, an Assistant Professor at the Department of Physical Education and Sports Sciences, Deshbandhu College, Delhi University, acknowledges the importance of continuous education and highlights the high online attendance rates, which have reached over 70%. The expectation is that online attendance will match the levels observed in traditional in-person courses.

This analysis underscores the positive impact of computer-assisted education, as it allows for flexibility, interactivity, and improved accessibility. The incorporation of various digital tools and resources contributes to a more comprehensive and engaging learning environment, ultimately benefiting both instructors and students.

## **VIII. FINDINGS**

The findings indicate that the integration of computers and their various applications in education has experienced a notable surge. Educational institutions, such as schools and universities, are actively adopting the concept of smart classrooms, where they incorporate video and presentation systems. The use of movies as an instructional tool has become prevalent, leading to more engaging and user-friendly learning sessions.



The transformation of traditional classrooms into smart classrooms, equipped with technology such as video and presentation systems, showcases a shift towards more interactive and dynamic teaching methodologies. By leveraging movies as a means of instruction, educators can enhance student engagement and create a more immersive learning environment.

These findings highlight the growing recognition of technology's potential in education, with a focus on utilizing movies to enrich the educational experience. This trend reflects the ongoing evolution of educational practices, as institutions leverage technology to optimize teaching and learning processes. By embracing these advancements, educators aim to provide students with engaging and accessible educational opportunities.

They request that pupils enrol in online courses. Education and innovation requirements have risen dramatically in recent years. Teaching institutions have begun to implement modern teaching methods such as intelligent boards, projectors, and smart books, among others. New apps like as Zoom and Microsoft teams have made computer-assisted teaching a success. They have improved the educational sector. Instructors benefit from the utilization of technology as it enhances learning by making it more interactive, accessible, and engaging.

- A. A significant majority of K–12 teachers, approximately 63 percent, incorporate technology into their daily classroom activities.**
- B. Recent data from the Phoenix College of Education reveals a rise in classroom technology usage, increasing from 55% in 2016.**
- C. Furthermore, an estimated 86 percent of teachers reported using laptop computers as part of their instructional approach.**
- D. Among the technology tools employed by educators, 58 percent utilize educational software, 21 percent make use of 3D printers, and 41 percent integrate social media platforms into their teaching practices.**

## IX. CONCLUSION

In conclusion, our findings highlight the significance of computer-assisted education as an efficient and inspiring teaching method. While the approach offers numerous advantages, it is important to acknowledge that cost and limited access to technology can present barriers, particularly for individuals residing in remote areas. However, when technology and resources are effectively utilized, computer-assisted education has a significantly positive impact on students' academic achievements.

We are currently in the era of "Education 4.0," where computer technology plays a central role in the educational landscape. As the global economy faces challenges and various sectors, including education, are at the brink of collapse, computer-assisted education stands out as the pillar that safeguards the education system worldwide. The reliance on computer facilities and applications has become essential for studying and working in today's world.

Education knows no boundaries, and computers serve as a valuable tool in overcoming hurdles. Especially during a pandemic situation, computer-assisted technology becomes vital in reaching a wide range of learners. The research findings strongly support the widespread adoption of computer-assisted education programs, with a significant percentage of students (90 percent) acknowledging their acceptance and preference for such programs.

Overall, computer-assisted education has become the preferred approach for educational institutions, providing opportunities for students to enhance their capabilities. It is a powerful tool that has the potential to transform and improve the education sector, ensuring that education remains accessible and effective for learners worldwide.

## X. RECOMMENDATIONS

Based on the findings and conclusion of the study, several recommendations can be made to enhance the implementation and effectiveness of computer-assisted education:



**A. Develop a structured and disciplined approach**

Implement a well-defined framework for computer-assisted education that ensures a systematic and organized use of technology in the classroom. This includes clear guidelines for instructors on integrating technology effectively into teaching practices.

**B. Limit screen time for children**

Recognize the importance of balancing technology use for children. It is advisable to establish time limits for electronic device usage to maintain a healthy balance between screen time and other activities.

**C. Ensure technology serves its purpose without harm**

Technology should be utilized in education when it adds value and enhances learning outcomes. Care should be taken to ensure that technology is used responsibly and does not negatively impact students' well-being or hinder their learning process.

**D. Bridge the digital divide**

Address the issue of limited access to technology in rural communities. Efforts should be made to make computer-assisted education accessible to students residing in remote areas by providing necessary infrastructure and resources.

**E. Foster technological advancements**

Continuously explore and invest in advancements in educational technology to improve the quality and effectiveness of computer-assisted education. This includes keeping up with emerging technologies, software, and tools that can enhance the learning experience.

**F. Maintain the integrity of education**

While adopting new educational methods and technologies, it is essential to ensure that they do not compromise the core principles of education. The focus should be on using technology as a supportive tool to enhance teaching and learning, rather than replacing essential elements of education.

By implementing these recommendations, institutions can optimize the benefits of computer-assisted education, create a balanced approach to technology use, bridge the digital divide, and ensure the integrity of education is upheld.

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SJIF Scientific Journal Impact Factor

Impact Factor: 8.423



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