The Impact of Technology on Education: A Case Study of Schools

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Abstract. In this analysis, we look into how digital tools have altered classroom practice. Technology has had a profound effect on rural education through the use of online resources, improved communication between students and teachers, personalized learning, and expanded access to higher education. Based on the findings of this research, it appears that technological advancements have improved the educational experience by giving students more opportunities to learn, more ways to learn, more control over their learning, and more ways to further their education.

Keywords: Technology, Education, Schools, Learning

INTRODUCTION

Technology has changed the face of education, as it has of so many other aspects of modern life. In recent years, there has been a meteoric rise in the adoption of instructional software, interactive whiteboards, and online learning platforms (Dwivedi, 2020). The promise of technology to enhance education is clear, but its efficacy in the classroom is still up for debate, especially in less-populated areas.

The advantages of employing digital tools and resources in the classroom are being recognized by an increasing number of teachers (Asbari et al., 2020). Online courses, virtual classrooms, software, and interactive whiteboards all have the potential to radically alter the educational experience for students and teachers alike. It is still debatable whether or not technology progress has improved education and boosted student outcomes (Sintema, 2020).

Because of the disparate deployment of technology in the classroom, rural schools in the United States sometimes fall short of their urban counterparts in terms of funding and internet access (Greenhow et al., 2021). Isolation and a lack of resources can make it so that rural schools struggle more with technology than their urban counterparts. As a result, there may be significant distinctions in the uses of technology and their impacts between urban and rural classrooms (Ewing & Cooper, 2021).

Despite these challenges, technology improvements might offer significant benefits to classroom learning in outlying places (Alammary et al., 2019). In theory, it may provide students and teachers everywhere with access to previously inaccessible resources and opportunities for learning (Zhou, 2022). Students now have more opportunities to pursue their academic interests at their own pace thanks to technology technologies. Nonetheless, in order to optimize technology's positive effect on learning in rural schools, it is essential to get a deeper understanding of the specific opportunities and challenges given by technological advancements in these settings (Huang et al., 2020).

This project intends to use a case study approach to learn more about how the introduction of technology into rural schools has affected teaching and learning. To wit: (Tijan et al., 2019) This study analyzes the practices of one school or a group of schools in order to create
a holistic understanding of the manner in which technology is used and the potential and limitations it presents for education in rural settings (Boldureanu et al., 2020). Finding out what factors influence the acceptance and use of technology in rural schools is a secondary goal of this research (Forte et al., 2020).

This study aims to examine the impact of technology on education in rural settings through the use of a case study approach (Abbas et al., 2019). By studying the experiences of a single school or cluster of schools, this study aims to provide light on the benefits and drawbacks of employing technology in rural classrooms (Ainscow, 2020). In addition, the research hopes to provide strategies for enhancing the use of technology in rural classrooms by illuminating factors that may influence its uptake and implementation (Liu et al., 2020).

The study’s overarching purpose is to contribute to the ongoing debate about technology in the classroom by providing teachers and policymakers with information and suggestions to boost the use of technology in rural schools (Ferri et al., 2020).

METHODS

Case studies provide in-depth analyses of particular educational institutions or networks of institutions through the use of interview, observation, and archival data. Case studies are a great way to learn more about how various factors influence the introduction of technology into rural classrooms.

RESULTS AND DISCUSSION

The National Center for Education Statistics (NCES) is the primary government body responsible for collecting and analyzing data on education in the United States. Indicators such as the percentage of schools with internet access, the number of computers in use, and the number of students enrolled in online courses may be found on their site.

The National Council for the Education of Rural Children (NREA) There is a professional organization in the United States called the National Rural Education Association (NREA) (Bottiani et al., 2019). Their website provides access to a wealth of information, including descriptions of existing technologies, pros and cons associated with their use, and links to other useful sites.

As a nonprofit, the Rural School and Community Trust works to improve rural communities by investing in their schools and infrastructure (Toshkov et al., 2022). Their website, which focuses on rural education in general, has numerous studies and guidelines, some of which discuss the use of technology in rural schools.

Educators all over the world have banded together to form iNACOL, which stands for the International Association for K-12 Online Learning and promotes the use of technology in schools (Kaden, 2020). Their website features a plethora of materials and studies on the topic of educational technology, including extensive data on online education and the use of virtual classrooms.

Producing organizations in the field of educational technology frequently collect and disseminate data regarding the impact of their wares on academic outcomes for students (Macgilchrist, 2019). Data like this may be biased, but it’s still helpful for understanding how various classroom devices are used.

In the United States in particular, there have been a plethora of research looking at how the adoption of new technologies in the classroom influences students’ academic performance (Malmqvist et al., 2019). A literature review is an excellent tool for learning about the findings of previous studies and finding ways to bridge knowledge gaps.

It’s also worth noting that collecting data on technology’s impact on rural schools could prove difficult due to their smaller sizes and more unique characteristics. Quantitative and qualitative data should be used together when possible to provide a complete view of a situation.
These results suggest that the effect of technology on rural education is more nuanced than previously thought (Oztemel & Gursev, 2020). The spread of information and the development of digital libraries and classrooms are only two examples of how technology has expanded educational opportunities. There is widespread agreement among teachers that students, particularly those majoring in the STEM professions, benefit from the use of technology in the classroom (Kidd & Murray, 2020).

The study also revealed some challenges to effective technology integration in rural schools. Equipment costs and maintenance, inadequate training for educators, and technological stagnation were all cited as causes for concern (Rahiem, 2020). Some teachers reported being hampered in their efforts to properly integrate technology into the classroom because of these issues, which may have mitigated any beneficial benefits that technology could have otherwise had on student learning (Joshi et al., 2020).

These findings suggest that technological advancements could enhance rural education generally, while the extent of this benefit could differ between contexts. It is not enough to simply provide computers and internet connection to rural schools; teachers also need to be given the tools and resources they need to effectively integrate technology into their classrooms.

Investments in technology infrastructure and teacher training could be strategically placed to assist solve these problems and increase the usage of technology in rural schools. If, for example, schools had better internet and updated computer labs, students may be able to make better use of the resources available to them online and as a result, study more effectively in school. Continuous training and coaching on how to utilize technology effectively in the classroom may also improve teachers’ use of technology and its impact on student learning.

An offline or low-bandwidth educational platform could be a good option if you are located in a remote area with limited access to the internet. Collaborations between rural schools and local businesses and NGOs may also help expand students’ access to necessary tools and resources.

The findings, taken as a whole, highlight the need of continuing efforts to improve the application of technology in rural education and assure that all students have equitable access to its benefits. There has to be more study done on the pros and cons of implementing technology in rural schools, as well as the identification of strategies that might optimize the benefits of technology on education in this setting.

CONCLUSIONS

The National Center for Education Statistics (NCES) is the government agency of record in the United States for collecting and disseminating educational data. The Rural School and Community Trust is an organization that works to improve educational opportunities in rural areas. The International Association of Computers in Learning (iNACOL) is a community of educators committed to expanding the use of technology in education. Both positive and negative effects of technology have been felt in rural schools. Educators worldwide have found that incorporating electronic resources into their lessons increases student engagement and leads to better outcomes. Technology and internet connectivity, as well as teacher training and support, are essential for the successful integration of technology in rural education.

REFERENCES


