

The Importance of Incorporating Digital Technology into Mathematics Education

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Commentary

As a consequence of travel bans and quarantines imposed in response to the COVID-19 pandemic, educational institutions throughout the world have shifted their attention to online learning, which might result in an increase in education and better equip us to deal with future calamities. COVID-19 has the potential to help regions acquire strong capabilities if they have enough connection, infrastructure, and resources, as defined by the nature of global digital education.

The study will use global and local trends that recognize the importance of incorporating digital technology into mathematics instruction to provide pertinent information on COVID-19's positive side effects, as well as adding a topical topic on COVID-19 and the use of digital technology in mathematics education to educational libraries; Providing crucial insights to those planning curriculum in the world's educational authority on the use or misuse of digital technology in mathematics education, as well as instructing instructors on how to use digital technology in math classrooms. Contributing to the development of new research paths in order to stay up with technological advancements and capitalize on their beneficial impact on mathematics education.

Technology integration in education is a complicated process encompassing several components, and it is critical, as with all other creative concepts, that the various pieces be thoroughly evaluated before implementation.

Evidence of innovations' acceptance and applicability, as well as their implementation in classrooms, impact on the learning process, and cost-effectiveness, is crucial. For use with a range of indicators, a number of unique ways in mathematics education have been suggested, developed, tried, and implemented. ICT-based educational technologies, open and remote learning, virtual educational platforms, the sharing of open educational resources, and the implementation of research findings are just a few of the fields where they have shown to be effective.

Despite the fact that researchers are increasingly focused on the possible areas of application and possibilities of digital technology, mathematics education remains an under-researched topic. Nonetheless, some research has been done on how this sort of technology may be employed in mathematics education. The first studies on the use of mobile learning in mathematics were published in the late 2000s, and since then, there has been a significant increase in this sort of research in terms of international conferences and sector-specific publications. The majority of the research in this study may be divided into three categories.

Crompton did research to show how mobile devices might help with mathematics conceptual learning. Crompton presented a design-based research project in which iPads were utilized as a medium for aiding primary school children's understanding of the concept of angles. In this learning environment, students utilized mobile devices to detect and depict patterns that mirrored angles that existed naturally in their surroundings. The pupils then analyzed the photographed forms using dynamic geometry software on their mobile devices. As a consequence, the students were able to identify whether the naturally formed angles they observed in their surroundings were connected to the numerical functionality of an angle.

Learning objects (LO) are components of the IEEE Learning Technology Standards Committee's new notion of e, which is based on an object-focused approach in computer science. According to the definition, a LO is a digital object that can be replicated and annotated with metadata to aid learning. Usability, compatibility, and renewability are used to classify learning objects. Even though interoperability refers to the ability to share learning objects with other technology systems without requiring them to be modified, and reusability refers to the ability to use learning objects in a variety of educational settings, accessibility refers to the ability to tag learning objects with metadata. Some of the most widely used learning materials in virtual repositories are MERLOT, Wisc-Online, DRI, Khan Academy, and EBA [1-5].

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