

Use of Technology in Mathematical Education

Abhishek Joshi*

Department of Mathematics, GNA University, India

Editorial Note

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*For Correspondence:

Abhishek Joshi, Department of Mathematics, GNA University, India,

E-mail: vanil2183@gmail.com

EDITORIAL NOTE

It has been recommended that online technologies, when used in conjunction with suitable teaching methods have the opportunities to resolve some of the challenges usually affiliated with mathematics education by facilitating realistic, problem-solving, and collaborative methodologies to teaching and learning thereby supplying coherency and context for the mathematics. However, several authors argue that, while the use of technologies in the mathematics classroom is growing, the results do not always measure up to its possibilities to improve the educational experiences. This study provides a summary of the general characteristics of current scientific research investigations on the use of technologies in mathematics instruction. A categorization is created and applied, providing a snapshot of the field's actual condition. Additionally, the categorization conclusions give a lens through which future study can be directed, as well as a rating system for new advances.

An overview of relevant literature is presented to offer context for the study, which is separated into two parts: the issues that digital tools may be able to help address and second, what might we consider as good practice.

Many of the concerns raised in the earlier segment can be addressed by using new technologies in mathematics education, such as developing new ways for students to build and start engaging with mathematical understanding incorporating the subject in meaningful aspects and giving students back the ability to establish purpose. Advanced techniques, in addition to their processing power, can aid cooperation and place a greater emphasis on practical aspects of science via modelling, visualisation, modification, and the presentation of increasingly complicated scenarios. As a result, international policies and curriculum are progressively prioritising the usage of technologies in mathematical education. A growing awareness of technology's ability to change elements of mathematics education has encouraged the belief that concern and investigation, rather than the memorization of a list of facts and processes, should be at the centre of the discipline in schools. It's important to think about the types of improvements in reading instruction that can be made with the use of technology, and to design projects appropriately. A historical look at the early use of technology in mathematics education reveals starkly opposing learning methodologies that resulted in wildly disparate systems. To create an atmosphere that encourages students to use technologies in an inquiry-based, constructivist manner, a shift in educational method and student learning experience is needed, and this is mostly dependent on teachers' actions and attitudes. Many schools have traditionally used a behaviourist approach to mathematics education, which manifests itself in didactic teaching methods that emphasise process over comprehension and rote acquisition of subject matter over reading.

An assessment of current interventions was conducted in order to have a better understanding of trends in innovation mathematics teaching research. Through the lens of a classification system established expressly for this purpose, a comprehensive examination of available literature was done. Scientists can use this knowledge to create studies that address these challenges and continue to expand the knowledge base. This initiative, as well as the planned establishment of an open-source resource related to innovation mathematics teaching, has the potential to follow developments in the subject. There is a possibility to draw attention to scientific areas that need to be developed and to meet Papert's challenge.