

Technologizing Math Education: The case of multiple representations

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Abstract: Technology is a cornerstone for NCTM and has been accepted to be beneficial, but the level of effectiveness is still very vague. This research questions exactly how effective is technology in the mathematics classroom, and what are the definitive benefits. After studying over 300 articles, technology has proven to be beneficial in five ways: providing instantaneous visual feedback, creating student-centered learning environments, providing multiple representations of similar concepts, combining learning environments for generalizations, and retracing previous steps for self-assessment. The most frequently discussed topic was multiple representations, usually in the form of CAS and dynamic geometry systems. The research shows that providing multiple representations allows students with varying levels of intelligence to better understand tricky and abstract concepts.

Keywords: Technology, Multiple representations, Multiple intelligences, technology effectiveness, mathematics education