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Challenges and opportunities of technology integration into mathematics classrooms in GET/FET phase : teachers' perspectives.

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2015-05-27
http://hdl.handle.net/10539/17874

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ABSTRACT

In tandem with mathematics education reform movements of the past two decades, computer integration into mathematics classrooms has become an issue of concern. This research is intended to understand teachers' perspectives on both opportunities and challenges that mathematics teachers face when integrating computers into mathematics classrooms. Relevant literature is used to background the study and a Vykotskian socio-cultural constructivist perspective anchors and guides the research.

A small non-representative sample of six mathematics teachers from six different schools in Gauteng province is investigated through a case study that comprised questionnaires sent through emails, and a group interview. Related ethical considerations of conducting a research were considered.

Results indicate the following opportunities: Computers in mathematics classrooms may be used as/ for visual representation of mathematics concepts, time saving, up-dated storage devices and cognitive development tools. Similarly, the following challenges were picked up: Firstly, lack of access to hardware and software, no immediate repairs of computers, no obligation from the Department of Education to integrate computers into mathematics lessons and poor time-tabling of computer lessons. Secondly, lack of mathematics technology knowledge may result in teachers not perceiving the usefulness of the technology. Lastly, lack of in-depth professional development in technology integration negatively impacts on teachers' practices such as expertise in planning, classroom technology management and classroom instruction.

In serving its purpose, the study has provided an understanding that computers hold potential opportunities when integrated into mathematics classrooms. However, there are challenges teachers may face pertaining to this integration scenario.