

***Virtual Environment: A Tool for Developing Students' Abilities
to Apply Mathematics to Real-life Problems***

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This research is devoted to utilization of a Virtual Environment (VE) simulation for developing students' abilities to apply mathematical knowledge obtained at school. The study explores how students, who had completed an AP calculus course, find the optimal path in a Second Life VE setting empirically and, after that, mathematically. The Realistic Mathematics Education (RME) theory was used as a theoretical framework for experimental design and for data examining. A new term, 'empirical mathematizing', is introduced and utilised in this research. The study demonstrates that students' empirical mathematizing fully determined their models-of the situational problem and consequently, their vertical activities.