

More than just Playing and Fun: Educational Benefits of Video Games in Classroom

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Abstract

In the last decade, many educators have shown interest in game-based learning and its application in the classroom instruction. As video games have become one of the most popular sources of entertainment among children and youth, many educators started discovering that playing video games with educational content may provide a platform for motivating and engaging students in learning in an effective and meaningful way. The present ethnographical study focused on using video games during mathematics instruction in two elementary classrooms in Ontario, Canada, and involved interviewing participants, and observing, documenting, and assessing the ways of how playing video games may meet the learning goals corresponding with lessons in mathematics. The study applied self-determination theory (Ryan & Deci, 2000) and Gee's (2003) learning principles to illuminate students' experiences and attitudes about video games in mathematics instruction. The main purpose of the study was to examine and identify the potential educational benefits of game-based learning in mathematical skills acquisition. The results demonstrated students' increased motivation and engagements while practising mathematical skills playing video game *Prodigy* and were consistent with Self-Determination theory and Gee's learning principles outlining the prominence of autonomy, competence, relatedness, risk taking, and agency experienced in playing video game, all important components for enhancing students' learning and motivation. These findings implied that video games used in mathematics instruction aligned with the clear instructional goals, may increase students' engagement, and may reduce the anxiety and fear of failure that often interfere with students' mathematics performance abilities.

Keywords: video games, education, teaching, motivation