

Presenting an idea or experience

Using Simulation as a Learning Tool in Civil Engineering: The Dam Game

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A pilot study to evaluate the effectiveness of using a dam construction simulation game in the Civil Engineering course at Curtin University of Technology has been conducted. In particular the development of professional skills and other qualitative learning outcomes were assessed.

The study used a variety of methods (observations, student assessment tasks, and questionnaires) to gather information and revealed, in the main, that students believed that the simulation game was an effective learning tool for them. Students recognised that the simulation game helped them to develop skills in applying their fundamental engineering knowledge to a civil engineering construction project. They also came to understand how their engineering decisions affect the workplace, people, and the environment. Students were confident that the game taught them much about working as part of a professional team.

The game/simulation exercise was run with third year engineering students. They had to plan, monitor, and report on a civil engineering project (dam construction). In this presentation the different perspectives and observations of the teaching team, [of an engineer and a teacher] on the teaching and learning process will be discussed. While the simulation game is an effective learning tool, we believe that it must be used in conjunction with supportive face-to-face teaching practices.

Further research will be conducted on the simulation game based on developing an enriched teaching context to maximise the effectiveness of the simulation game in students' learning.

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