Designing Educational Games in Science (Poster)

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Abstract

Is it possible to design educational games in science that will engage students similar to commercial games? We previously presented (Author & Broza, 2012) evaluation of a model integrating digital educational games with interactive learning units, where we found that students reported experiencing both learning and enjoyment. The current study focused on games in science, and examined the relation between the game design parameters and the learning experience based on the Flow model.

We assumed that by changing the game parameters the relation between challenge and skill will be influenced, as expressed by the flow experience, influencing in turn the learning experience.

The framework comprised a series of pilots in a primary school class, through which the game was calibrated and then piloted again. Flow was evaluated using online questionnaires. We found significant changes in flow components between the three phases of the pilot. Students' responses indicate assimilation of social practices and understanding of the relation between parameters.

We conclude that careful design of game parameters influences the flow experience as well as the learning experience and understanding of content goals and social values.

Keywords: Educational-games, flow, science-learning, game-based learning.