

Achieving flow in an online learning environment

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Engagement and online learning

In a fast-paced world in which TV, DVDs, MP3s, mobile phones, and the Internet present a ready supply of distractions, the art of enticing students to become deeply engaged in online learning materials is becoming more and more difficult. One approach to exploring such engagement is through the use of 'flow theory'. Flow is a term first coined by Csikszentmihalyi (1975) to describe an experience that is highly engaging and enjoyable for its own sake ('autotelic'). Such an experience will present challenges that are demanding of the person's skills, present clear goals, and provide timely and appropriate feedback. During such experiences the person often reports a loss of self-consciousness and a loss of a sense of time. Flow has been researched in many facets of life, and many have suggested that it is an ideal state for learning – yet little research has explored this link between flow and learning.

An experiment to measure flow

This poster describes a study that measured the flow experiences of students engaged in an online learning exercise in first-year undergraduate physics (Pearce, Ainley and Howard, 2004; Pearce and Howard, 2004). The students worked through a sequence of Web-based tasks that encouraged them to explore physics concepts using a highly interactive simulation. Repeated measures of flow were made after each task by recording the students' perception of the challenges and skills presented to them. From these data a 'flow-path' could be plotted showing how students moved in and out of flow as they grappled with the complex learning tasks. These flow measures were compared with other measures of flow, using surveys and interviews, to help understand the flow experience in a learning context.

Findings

Many students showed evidence of flow experiences while working through the tasks. However, the repeated measures of flow showed that it should be regarded as a *process* rather than a *state*. Importantly, it was found that these flow experiences could relate either to engagement with the learning tasks presented by the exercises, or to engagement with the software simulation used to explore the task (the 'artefact'). This distinction between 'task' and 'artefact' is a significant one for online learning. An attractive "bells and whistles" multimedia environment might encourage intense engagement – flow – on the part of the student, but if this engagement does not move past the artefact on to the task, it may simply serve as a distraction to their learning. This is an issue that needs to be addressed in the design of online learning materials.

References

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