

An Exploratory Review of Design Principles in Constructivist Gaming Learning Environments

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ABSTRACT

Creating a design theory for Constructivist Gaming Learning Environment necessitates, among other things, the establishment of design principles. These principles have the potential to help designers produce games, where users achieve higher levels of learning. This paper focuses on twelve design principles: Probing, Distributed, Multiple Routes, Practice, Psychosocial Moratorium, Regime of Competence, Self-Knowledge, Collective Knowledge, Engaging, User Interface Ease of Use, On Demand and Just-in-Time Tutorial, and Achievement. We report on two pilot studies of a qualitative nature in which we test our design principles. Game play testing and observations were carried out on five Massively Multiplayer Online Games (MMOGs): RuneScape, GuildWars, Ragnarok, World of WarCraft, and Final Fantasy XI. Two educational games, Carabella Goes to College and Outbreak at WatersEdge were also observed. Our findings indicate that not all of the popular MMOGs and educational games support all of these principles.

Keywords: Design Principles, Massively Multiplayer Online Games, Constructivist Learning Environment, Information Systems Design Theory