Learning effectiveness of 360° video: experiences from a controlled experiment in healthcare education

Recent advances in virtual reality (VR) technologies provide new opportunities for e-learning by giving the students an increased sense of presence. One of the VR technologies recently introduced to the public is (360-degree) 360° video. Despite its limited empirical backing as an effective educational tool, this emerging technology could prove useful for e-learning and thus become a feasible IT-investment for education institutions. This paper reports on a controlled experiment with 360° video used in healthcare education. Eighty-one physiotherapy students participated in the experiment. Results show 360° video to be just as effective to enhance academic performance as regular video and traditional teaching. However, 360° video and regular video were less effective than traditional teaching in students’ learning satisfaction. Only on the student’s emotions about the learning climate did 360° video outperform regular video. Our results show that when comparing these educational technologies side-by-side with traditional teaching, traditional teaching is on most constructs equally or more effective. However, 360° video is a viable alternative to VR and regular video, because it is cost-effective and have a positive effect on the user’s emotional response to the learning climate. These factors may influence how 360° video is accepted by students and educational institutions.
Exploring Divergent and Convergent Production in Idea Evaluation: Implications for Designing Group Creativity Support Systems

Most organizations need to evaluate novel ideas to identify their value. However, current idea evaluation research and practice hinder creativity by primarily facilitating convergent production (narrowing down ideas to a few tangible solutions) but discounting divergent production (the development of wildly creative and novel thoughts patterns). In this paper, I challenge this dominant view on idea evaluation by presenting a new theory I call dynamic idea evaluation and exploring the theory through a group creativity support system (GCSS) prototype. I designed the GCSS prototype as an idea portal that uses the knowledge created from the evaluation process to facilitate both convergent and divergent production. I designed the GCSS using an inductive and theory-building design science research (DSR) approach and interpretively analyzed it through an exploratory study in a Danish IS research department. I found that the GCSS demonstrates the ability to facilitate both divergent and convergent production during idea evaluation. Moreover, I add four design requirements and process architecture to help designers to build dynamic idea evaluation into this class of systems.

Creating Evaluation Profiles for Games Designed to be Fun: An Interpretive Framework for Serious Game Mechanics

Background. Games can be great pedagogical tools for educators and students. COTS games (commercial-off-the-shelf) are designed for the pure purpose of leisure but can also contain educational value. Aim. In this paper, we address the potential of COTS games as serious games. We develop an interpretive evaluation framework that can identify the educational value in COTS games.

Application. The presented framework can create evaluative profiles of the learning, social, game, and immersive mechanics of COTS games as educational tools. Moreover, the framework can position COTS games between four intertwined dimensions, namely pedagogical, design, knowledge, and sociotechnical considerations. Demonstration. To validate the practical application of the interpretive framework, we apply it to a real-world example. Our demonstration reveals the usefulness of the framework. Conclusions. The framework enables critical reflection on the game mechanics; thereby capturing the complexity of the game mechanics that makes COTS game both educational and fun to play.