Editorial

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This issue of the IJSG proposes six articles dealing a variety of topics such as collaboration, cognitive assessment and training, computational thinking. Here a short overview follows.

"Serious Games and Cognitive Assessment. A psychometric approach to serious games analytics", by Mejia et al. [1], addresses the question on how can psychometrics be applied to serious game analysis in a video game designed to assess executive function. Utilizing psychometrics and task analysis, the study conceptualizes and validates a measurement instrument embedded within a serious game. The study aims at demonstrating that serious games integrate well with psychometric techniques.

"Development and Usability Testing of a Virtual Reality Game for Learning Computational Thinking ", by Sukirman et al. [2], evaluates usability of a VR game, CT Saber, designed explicitly for learning computational thinking (CT). A pilot testing was carried out involving 36 participants of computer science students, employing the USE Questionnaire framework. The evaluation revealed that CT Saber is categorized as 'acceptable' from dichotomous and conventional academic grading perspectives. Responses to open-ended questions in the questionnaire also indicated predominantly positive feedback from most participants.

"Impact of a cognitive training on reading of 6-year-old children", by Reina-Reina et al. [3], present a pilot study to investigate the impact of gamified executive functions training on letter identification, and on word and pseudoword reading, in typically developing 6-year-old children. Cognitive training was conducted using a commercial platform in 12 children, comparing their performance with a comparison group of 28 children, for 8 weeks. Results indicated that the experimental group showed higher reading speed in letter recognition than the comparison group. However, no significant effect was found in the rest of the reading skills.

" Effects of Meaningful Choices in Serious Games for Meaningful Learning ", by Wong et al. [4], examines how meaningful choice design affects the overall learning experience of a virtual reality educational serious game. An intervention was developed to teach hazard detection in mines and was tested by mining engineering postgraduate students at a tertiary institution. Qualitative findings suggest that participants felt an improved overall learning

experience. According to the authors, this design approach let the students establish a personalized flow and pace to master the content, and enhance their learning outcomes.

"The emergence of collaboration in serious games: An exploratory study", by Almås and Giæver [5], aims to improve understanding of how collaboration emerges during play by investigating experiences and actions believed to foster collaboration. The authors found that serious games can create unique ways for collaboration to emerge not found in non-game collaboration, which may positively influence learning under the right conditions, which is to be better investigated in future research.

"Dynamic Adaptative Surveillance Training in a Virtual Environment Using Real-Time Cognitive Load and Performance", by Seyderhelm, and K. L. Blackmore [6], present an experiment, building on 'mental efficiency' research, to compare two versions of a surveillance training serious game; one a linear approach and the other with the authors' cognitive load and performance-based dynamic difficulty adjustment system. Reported results indicate that the novel approach achieved similar performance outcomes with lower cognitive load, in less time than the linear difficulty approach.

References

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