



Editorial

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The second issue of the tenth volume of the IJSG involves the following seven regular papers.

“A systematic review on the use of serious games in project management education”, by Hellström et al. [1], investigates the motivation for using project management serious games in higher education. A systematic review was performed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). An inductive content analysis of 43 selected articles highlighted the relevance of pedagogical and practical reasons. From a pedagogical perspective, serious games are mainly used to develop specific skills that are difficult to acquire in frontal lectures, such as practical competencies and soft skills. Serious games are mainly used for proposing a risk-free trial environment. Based on their analysis, the authors propose a taxonomy of reasons for using PM games in higher education. Their research also reveals that few studies assess whether serious games meet all their objectives, and that more research is needed on how to implement them into a coherent pedagogical scenario.

“Age and sex effects on Super G performance consistent across internet devices”, by Hooyma and Schaefer [2], investigates if device type (mobile vs computer-based) modifies the established effects of age and sex on performance in online games that assess motor skill acquisition/learning. Although there was a main effect of device on performance, this effect did not alter the overall relationship between performance vs. age or sex. This establishes that Super G (i.e., online motor learning assessment) can effectively be extended to both computer and mobile platforms to further test for dementia risk factors.

“Imparting Systems Engineering Experience via Interactive Fiction Serious Games”, by Ford et al. [3], explore the use of interactive fiction serious games to impart systems engineering (SE) experience and teach SE principles. Fourteen serious games were analyzed in terms of cognitive viability, qualitative viability, and replayability. The authors argue that students with a SE background are able to learn the Twine gaming engine and create a serious game aligned to the Apply level of Bloom’s Taxonomy which conveys a SE experience and teaches a SE principle within a four-week period of time.

“Designing a framework and validating a tool for evaluating the educational quality of serious games: a meta-synthesis”, by Bakthiari and Habibzadeh [4], presents a framework and a questionnaire for evaluating the educational quality of serious games. By analyzing and

processing a set of 29 articles, basic dimensions, components, and indicators were extracted and turned into an evaluation tool using thematic analysis with the purpose of validation. The authors argue that the proposed framework and tool are able to evaluate the educational quality of a serious game and cover its design project end to end.

“Critical meta-analysis of problem-solving serious games: Clear signs of pedagogists’ disengagement and over-optimistic expectations”, by Mohaqeqian et al. [5], aims to critically analyse previous empirical studies conducted on Problem-Solving Serious Games (PSSG). Using Constant Comparative Method framework, 36 studies are refined and finally chosen. Beside indicating benefits in terms of motivation and impact, the study stresses that an interdisciplinary approach led by pedagogists is needed to design, develop, and examine PSSGs effectively. The over-optimistic viewpoint about serious games and particularly PSSGs should be moderated by looking more closely at the negative marginal and side effects of these games.

“Using Visual Programming Games to Study Novice Programmers”, by DeLozier and Shey [6], designed a visual programming language and game-based framework for studying how novice programmers solve parallel problems. This tool was used to conduct an initial study on 95 undergraduate students. This study demonstrated that novice programmers could solve parallel problems, and this framework can be used to conduct more thorough studies of how novice programmers approach parallel code.

“Fibonacci Level Adjustment for Optimizing Player’s Performance and Engagement”, by Masyfa et al. [7], proposes a nonlinear game level adjustment technique based on machine learning and the Fibonacci sequence, that provides gradual increases in the early stages of the games but more drastic changes in later phases. Here, the game’s difficulty level was automatically decided by a machine learning method. Results of a test with 40 players show the efficiency of the algorithm, as the best player’s peak level in the proposed nonlinear adjustment was twice as high as that of linear adjustment. Also, the number of stages required to reach the peak under the proposed scenario was half that of linear games.

References

- [1] M. M. Hellström, D. Jaccard, K. E. Bonnier, “A systematic review on the use of serious games in project management education,” *International Journal of Serious Games*, vol. 10, no. 2, pp. 3–24, 2023, doi:10.17083/ijsg.v10i2.630
- [2] A. Hooyman, S. Y. Schaefer, “Age and sex effects on Super G performance consistent across internet devices,” *International Journal of Serious Games*, vol. 10, no. 2, pp. 25–36, 2023, doi: 10.17083/ijsg.v10i2.598
- [3] T. Ford, D. Long, E. Ford, "Imparting Systems Engineering Experience via Interactive Fiction Serious Games," *International Journal of Serious Games*, vol. 10, no. 2, pp. 37–60, 2023, doi:10.17083/ijsg.v10i2.572
- [4] R. Bakthiari, Z. Habibzadeh, “Designing a framework and validating a tool for evaluating the educational quality of serious games: a meta-synthesis,” *International Journal of Serious Games*, vol. 10, no. 2, pp. 61–83, 2023, doi: 10.17083/ijsg.v10i2.577
- [5] R. Mohaqeqian, M. Rezaei-Zadeh, M. Vahidi-Asl, “Critical meta-analysis of problem-solving serious games: Clear signs of pedagogists’ disengagement and over-optimistic expectations,” *International Journal of Serious Games*, vol. 10, no. 2, pp. 85–113, 2023, doi: 10.17083/ijsg.v10i2.563
- [6] C. DeLozier, J. Shey, “Using Visual Programming Games to Study Novice Programmers,” *International Journal of Serious Games*, vol. 10, no. 2, pp. 115–136, 2023, doi: 10.17083/ijsg.v10i2.577
- [7] F. H. Masyfa, H. Tolle, T. Tibyani, P. Hartono, "Fibonacci Level Adjustment for Optimizing Player’s Performance and Engagement," *International Journal of Serious Games*, vol. 10, no. 2, pp. 137–, 2023, doi: 10.17083/ijsg.v10i2.586