

Editorial Preface

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Welcome to the International Journal of Game-Based Learning (IJGBL).

This issue includes four articles that provide a comprehensive view of the many possibilities offered by games. The authors offer valuable insights on what they believe can influence motivation and the cognitive process in formal and informal educational settings. These papers are essentially based on their experience and the collection of a significant amount of data, both qualitative and quantitative.

These articles explain how board games can increase interest in and knowledge of complex scientific concepts (Chiarello and Castellano), and how mini-games can be used for training and increase situational awareness (Lukosch, Groen, Kurapati, Klemke, and Verbraeck); they illustrate how games can be employed to support and motivate children with special needs (Marchetti and Valente), and to what extent virtual worlds can help with language learning (Reitz, Lochmann, and Sohny).

Together, these articles reveal how game-based approaches can be used for a wide range of applications, both in formal education and in the industry, and for learning or motivation. They also show that both electronic and non-electronic game-based approaches have their place in education.

In the first paper, Chiarello and Castellano describe an interesting study where board games were employed to increase interest in complex scientific concepts such as the immune system or quantum mechanics; for this purpose, they created games with relatively simple rules and mechanics focused on core scientific concepts. Throughout their paper, they explain how these games, tested by over 100 participants, managed to increase players' interest in science, and helped them to acquire a relatively deep understanding of the topic, using analogies and metaphors that were considered pivotal in the learning process.

In the second paper, Lukosch, Groen, Kurapati, Klemke, and Verbraeck explore how micro-games can be employed to increase situational awareness in the context of seaport container terminals. They explain how situational awareness and situated learning, which are both considered very important for handling complex systems such as container terminals, require proper and specialized training, and how this training could be successfully conducted through micro-games.

In the third paper, Marchetti and Valente present a study dedicated to the use of games for children with autism. They describe how *MicroCulture*, a game developed to teach history, was used

and evaluated by 15 pupils. The authors describe how the children interacted with the game, how it impacted on their behaviors, and they also explain how the game could be further integrated in teachers' daily classroom activities. The authors also acknowledge the limitation of their work and foresee how it could be further developed, notably by considering the needs and characteristics of the children earlier in the design process.

In the fourth and last paper authored by Reitz, Lochmann, and Sohny, it is described how VR-based learning environments can be employed to teach foreign languages. The authors describe how these types of environments can be perceived as comfortable and authentic because they are playful and because they use a collaborative approach, along with communication and meaningful tasks.

I hope that you find these articles both inspiring and informative.

I also hope that you will consider submitting an article to subsequent issues of the journal, and contribute to the expanding body of knowledge on Game-Based Learning. Should you have any query about IJGBL, please contact the editor (pfelicia@wit.ie) or visit the official website for IJGBL at <http://www.igi-global.com/ijgbl/>.

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