

Future Pedagogies

Minecraft: A Remote Laboratory for Game-Based Distance Learning

Andrea Nardi , Andrea Benassi, Elisabetta Cigognini

Abstract

Immersive learning environments are some of the technological and cognitive artifacts that can support active teaching approaches, in which product and process evaluation can sustain significant learning even in remote contexts, if well designed and calibrated for the students in training. The paper delves into the experience of remote laboratory teaching conducted within the MineClass project between 2018 and 2021, during which the pandemic school saw a reduction at a national level of active and collaborative laboratory activities due to social distancing, both in-person and remotely. The study integrates results from case studies, qualitative and quantitative surveys, and semi-structured interviews directed at participants in the experimentation. Within the larger primary sample, a follow-up questionnaire was administered in 2022 with the aim of exploring the didactic use of the video game during the pandemic years; most respondents reported continuing laboratory teaching activities with Minecraft even to support distance learning after the conclusion of the MineClass project. The results show the positive impact of the experimentation in terms of perceived added value by teachers for the development of cross-cutting competences, increased motivation, involvement, and autonomy of their students.

**Conference organisers' note:** This paper was granted the EDEN Best Research Paper Award, in cooperation with The UNESCO Chair in Education and Technology for Social Change. It is a traditional award of EDEN Annual Conferences and Research Workshops. The appointed honourable jury blind selects 8–10 finalists and appoints only 1 Best Research Paper Award that is officially announced during the Gala dinner of the Conference. EDEN Best Research Paper Award competition is based on evaluation results on submission of Full Papers presented to the Annual Conference that follow five standard evaluation criteria:

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- Findings, results and outcomes are convincingly presented and critically examined.
- Conclusions are thoroughly discussed (including applicability, transferability, and further research.
- Literature is reviewed against state of the art.

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