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An Exploratory Study of Cultural Heritage Education in High School: Student- Created, Location- Based, Game-Based Learning

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Abstract

Game-based learning and gamification are increasingly used in education to support learning and student participation. Sailer and Homner (2020) found positive effects of gamification on cognitive, motivational and behavioural outcomes, while Wouters et al. (2013) reported improved learning and knowledge retention through serious games. Location-based games can also connect digital learning with real places and cultural heritage (Malegiannaki & Daradoumis, 2017; DaCosta & Kinsell, 2023). However, more research is needed on how students perceive creating and playing such games at school. This study explored the perceptions of 110 secondary school students from eight schools who took part in an outdoor learning activity in Labin, Croatia, between March and June 2026. Four research questions addressed students' activity preferences, motivation, engagement and participation, and the educational value of combining cultural heritage, outdoor learning and digital technology. Initially, 30 students of 110 completed a survey that helped shape the activity. Students then worked in groups during three visits to Labin. They selected heritage sites, researched their history, wrote descriptions and quiz questions, created a digital map using Padlet, and played the resulting game, which included points and timed challenges. Data were collected using an anonymous 18-item Likert-scale questionnaire. The findings showed that students preferred interactive, competitive and collaborative tasks. They also reported high motivation and engagement and recognised the educational value of combining heritage, outdoor learning and technology. The study highlights the potential of student-created games to bring local heritage into everyday learning.

Keywords: Cultural Heritage; Digital Educational Maps; Education; Game-Based Learning; Gamification.