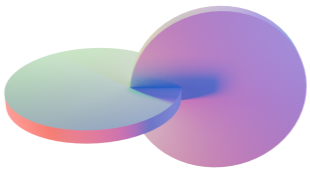

GIREP-EPEC
Transforming physics learning via Research & Practice
LEIDEN, 2025

Contribution ID: **163** Type: **Poster**

Gamification of Introductory University Physics Courses

Monday 30 June 2025 16:30 (1 hour)

Traditional lecture-based teaching methods are becoming less effective in engaging students. This research explores the impact of innovative teaching approaches, incorporating game-like elements, online tools, and research-based learning activities. Conducted among university physics students and teacher trainees, the study used continuous testing with control and experimental groups. Key hypotheses include higher knowledge acquisition, greater professional development, enhanced knowledge retention, and increased student commitment through innovative methods. Assessments were conducted at the beginning, middle, and end of the academic semester, alongside continuous performance monitoring. The findings contribute to optimizing teaching strategies in science, engineering, and teacher education.

Education level

Age over 18 (excluding teacher education)

Physics topic

Other

Research focus

Active learning

Research method

Innovative research strategies (Try-out) (Qualitative research)

Organizing preference criteria

Authors: JENEI, Péter (Eötvös Loránd University); VARGA, Szabolcs (Eötvös Loránd University)

Presenter: VARGA, Szabolcs (Eötvös Loránd University)

Session Classification: Poster session

Track Classification: Physics teacher education & Professional learning (TEACH)