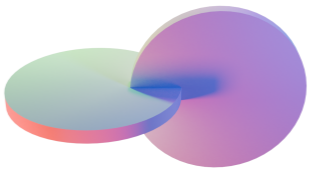

GIREP-EPEC
Transforming physics learning via Research & Practice
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Teacher students' expression of TPACK in GeoGebra-based lesson planning

Tuesday 1 July 2025 09:40 (20 minutes)

This study explored how physics teacher students use educational technology for visualizing physical phenomena during lesson planning. Ten students participated in lectures, an online session, and a workshop focused on GeoGebra, with data collection focused on the workshop. They evaluated and modified simulations, with video-data analysed using the TPACK framework. Most pairs collaborated effectively, demonstrating good TCK and TPK. The findings highlight the developmental process of integrating technology, pedagogy, and content, with room for further development. The TPACK framework provided a valuable structure for evaluating competencies in using GeoGebra in teaching of motion on inclined planes.

Education level

Pre-service and in-service teacher education

Physics topic

Other

Research focus

Digital technologies (multimedia, simulations, AR, VR, remote, games)

Research method

Other

Organizing preference criteria

Education level

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Session Classification: Parallel oral presentations

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