GIREP-EPEC
Transforming physics learning via Research & Practice
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A Remote Laboratory Learning Arrangement for Temperature-Dependent Resistance

Friday 4 July 2025 14:00 (20 minutes)

Remote laboratories enhance science and engineering education by providing flexible, online experimentation. As part of the OnLabEdu project, a learning arrangement within the Characteristic Curve Remote Lab was developed to explore temperature-dependent resistance using a design-based research approach. An initial evaluation with 18 pre-service teachers assessed autonomy, interest, flow, and usability. Additionally, interviews with five high school students identified learning obstacles. Results showed positive usability and time management ratings but showed moderate autonomy and perceived choice. Variability in fear of failure and flow suggests areas for improvement, guiding the refinement of the learning arrangement in the next iteration cycle.

Education level

Age 15-18 (Secondary education)

Physics topic

Other

Research focus

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

Research method

Mixed method (qualitative & quantitative)

Organizing preference criteria

Research focus

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