



# GIREP-EPEC

Transforming physics learning via Research & Practice  
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Type: **Oral presentation**

## Rich tasks for developing primary students' productive dispositions in physics and mathematics

*Monday 30 June 2025 16:30 (20 minutes)*

Fostering productive dispositions - positive beliefs, perseverance, and emotional engagement - is vital for student achievement in mathematics, physics, and STEM learning. This study explores how rich tasks, grounded in solving real-world problems, nurture student dispositions. A series of rich tasks were designed and implemented with Irish primary students. One of these rich tasks, is presented along with data collected from implementing with 109 primary students. Findings reveal that students who completed rich tasks had increased engagement, confidence, and conceptual understanding. The study highlights the transformative role that rich tasks can play in fostering productive dispositions and strengthening interdisciplinary STEM learning.

### Education level

Age under 12 (Primary education or earlier)

### Physics topic

Other

### Research focus

Innovative instructional strategies and pathways

### Research method

Educational design research (Qualitative research)

### Organizing preference criteria

Track

**Authors:** Dr MCLOUGHLIN, Eilish (Dublin City University); GRIMES, Paul; Dr KAUR, Tandeep (Dublin City University)

**Presenter:** Dr MCLOUGHLIN, Eilish (Dublin City University)

**Session Classification:** Poster session

**Track Classification:** Interplay of mathematics and physics (MATH)