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

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Efficacy of Doodles in Learning Quantum Concepts: An Innovative Visual Pedagogical Approach

Friday 4 July 2025 09:20 (20 minutes)

As part of the International Year of Quantum Science and Technology 2025, the Indian Association of Physics Teachers is launching a quantum physics outreach program for secondary and first-year undergraduate students. The program aims to make students aware of quantum science and related technologies through targeted topics. A case study on de Broglie's matter wave hypothesis leading to the electron microscope will be presented. The program includes creating doodles, a webinar with teachers, and a concept inventory of multiple-choice questions for students. The effectiveness of visual learning through doodles will be assessed, and results will be shared at the conference.

Education level

Outreach, Informal & Non-formal learning of physics

Physics topic

Quantum mechanics

Research focus

Student conceptions / Preconceptions / Misconceptions

Research method

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

Organizing preference criteria

Physics topic

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Session Classification: Parallel oral presentations

Track Classification: Quantum education (QUANT)