



GIREP-EPEC conference 2023  
Physics learning promoting culture  
and addressing societal issues

Contribution ID: 138

Type: **Oral presentation**

## Improving pre-service science teachers' mastery in designing and implementing inquiry experiments in physics concepts

*Tuesday 4 July 2023 15:00 (20 minutes)*

The aim of this action research was to improve the mastery of pre-service science teachers in designing and implementing inquiry-based physics experiments. The implementation had three phases; i.theoretical information for inquiry, ii.implementation of teacher-prepared experiments, and iii.design and implementation of the participants'own experiments. Data was gathered through reflection papers, self-evaluation forms, peer observations, and interviews. Pre-service science teachers had difficulty in deciding about the variables to control and manipulate while designing their own experiments. Peer observation and interviews revealed that the main reason behind the difficulties they have was the lack of content knowledge for teaching physics.

### How would you like to present your contribution?

Live in Košice (time slot to be allotted based on the programme)

### Target education level (primary)

Pre-service teacher education

### Target education level (secondary, optional)

Lower-secondary education

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**Session Classification:** Hybrid session - later

**Track Classification:** Physics teacher education and professional learning communities