



**GIREP-EPEC**  
**3–7 July 2023**  
Košice, Slovakia

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

Contribution ID: 146

Type: **Oral presentation**

## **Teaching electric circuits using real-world contexts – effects on conceptual understanding, interest, and self-concept**

*Tuesday 4 July 2023 13:40 (20 minutes)*

Learners tend to perceive electric circuits as abstract and uninteresting, and often fail to achieve a basic conceptual understanding. Therefore, we have developed a teaching concept for simple circuits with real-world contexts which is based on findings from research on students' interests and includes contexts that appeal to different interest types. Controlling for various covariates in an empirical evaluation, we find no significant differences between the conventionally taught group (n = 24 classes) and the context-based taught group (n = 11 classes) based on the preliminary data in terms of the development of conceptual understanding and affective variables.

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

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

### **Target education level (primary)**

Lower-secondary education

### **Target education level (secondary, optional)**

**Author:** GOTTSCHLICH, Benedikt (Physics Education Research Group, University of Tübingen)

**Co-authors:** HAAGEN-SCHÜTZENHÖFER, Claudia; Prof. BURDE, Jan-Philipp (PER Group, University of Tübingen); IVANJEK, Lana; Dr DOPATKA, Liza (PER Group, Technical University of Darmstadt); HOPF, Martin Richard; SCHUBATZKY, Thomas; WILHELM, Thomas (Goethe-University Frankfurt); SPATZ, Verena

**Presenter:** GOTTSCHLICH, Benedikt (Physics Education Research Group, University of Tübingen)

**Session Classification:** Innovative strategies at school

**Track Classification:** Innovative strategies and pathways to improve physics education at school