

# USING INSTRUCTIONAL VIDEOS TO IMPROVE PHYSICS EDUCATION

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## ABSTRACT

Instructional videos are widely popular on platforms like YouTube. Students watch them for various purposes, including to prepare for exams, to repeat topics they did not understand, or simply for entertainment. However, there is a lot of evidence from recent studies that just watching an instructional video often fails. If they are not embedded in ongoing cognitive activities and designed poorly, they can even do more harm than good for learning physics. The workshop offers learning opportunities for analyzing the quality of instructional videos and for applying guidelines on how to deal with instructional videos in physics education. The main principle is simple: instructional videos are certainly not teaching – but they could become a part of well-designed instruction if teachers use them cautiously.

Intended Audience: University and Secondary School Educators

## PRESENTER



Christoph Kulgemeyer is a full professor of physics education at the University of Bremen, Germany. After obtaining his PhD in Bremen, he worked as a high school teacher for physics and German language and literature before returning to the University of Bremen as a researcher in physics education. He went to the Universities of Osnabrück and Kassel and rejected several professorships at German universities before joining the University of Paderborn as a full professor in 2020. In 2022 he returned to the University of Bremen as the chair of physics education. He works on physics teachers' professional knowledge, instructional explanations, and reflection skills. His latest work focuses on how to learn effectively using physics explainer videos.

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