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Hands-on Physics Education for Developing Scientific and Critical Thinking in Primary Schools

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The Creative Science project, developed with the Slovak Academy of Sciences, promotes experiential learning in physics and technical education. Using custom-made experiment kits and a methodological guide, the project aimed to boost pupils' scientific and critical thinking and interest in science. A pilot study with 42 schools showed that pupils exposed to hands-on physics lessons achieved better results in scientific reasoning and physics knowledge. The poster will present the project's core ideas, the design of the experimental kits, and selected findings from the pilot study. While the focus is on physics and technical education, the interdisciplinary nature of the kits also touches on biology and chemistry. The results suggest that hands-on, methodologically guided science education can foster deeper understanding and enthusiasm for science among young learners.

Pracovisko fakulty (katedra)/ Department of Faculty

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