



2ND WCPE
World Conference on Physics Education
São Paulo - Brazil - July 10-15 2016

Simple experiments in physics teaching and learning – do they have any perspectives?

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Being cheap, requiring just a short time and often providing interesting results, simple experiments have been used in physics classes for a long time. However, how is it nowadays? Can they compete with what ICT, modern technologies and ubiquitous sophisticated gadgets provide for us and our students in more and more attractive forms and formerly unimaginable range and quality? Are not simple experiments with a few straws, skewers and threads obsolete and even ridiculous in the age of the internet offering tons of applets, virtual labs and latest achievements of physics at multimillion-dollar international facilities with one click? The purpose of the talk is to show that simple experiments “are not dead”, can be much more than qualitative toy experiments and their potential is greater than just to generate “small wow” reaction in students. Of course, this statement is something most physics teachers and educators would probably agree with; we like such experiments and the fact that they are useful belongs to internal beliefs of most of us. However, it should not be just a blind belief. Therefore, the aim of the lecture will be to support this claim by concrete examples (some of them hopefully at least partially new for the audience). So, we will try to “add ammunition” to our conviction that simple experiments can really have their firm place and good perspectives even in physics education in times to come.