

Contributed Talk

Splinter Education

‘WITH LIGHT THROUGH OUR SOLAR SYSTEM AND BEYOND’
AN ASTRONOMICAL LEARNING CONCEPTION FOR INCLUSIVE
TEACHING OF PHYSICS

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Based on findings of the IPN and ROSE learning studies, we have developed a conceptual framework for teaching Optics in grades 5 or 6 (subjects: light sources, process of sight, straight propagation of light, shadows of one or two light sources, phases of the Moon, eclipses, absorption, reflection and scattering of light) under the title ‘With light through our solar system and beyond’. Applying the principle of Design Based Research, we drafted a teaching concept (‘design’) based on an astronomical context that included phases of learning in small collaborative groups of learners as well as single learners in differentiated exercises and application tasks. This conception has been tested in an initial pilot phase, which we present here and offer up for discussion. In addition to the frame context chosen, we also present a toolbox of experimental materials including a system of supporting guide to help with issues that we expect students may encounter in live classroom settings. Furthermore, we discuss what kinds of changes to the program we deemed to be appropriate after our evaluation of the pilot phase.