WHAT IS PHYSICS? – SOCRATIC ROOTS AND EXPERIENTIAL LEARNING

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A minds-on oral presentation about a new course at The Hague University of Applied Sciences in which an ongoing Socratic dialogue is used to construct a collective vision of applied physics among first-year bachelor students. In its novel approach, students develop professional capabilities through the integration of transferable skills, which will be used in later stages of the study program and in the professional field.

Students broaden their knowledge of physics during guest lectures, experiments and workshops taught by external physicists and engineers. Real-life gatherings foster calibration of ideas while ethical questions and broader perspectives on society emerge. In the meantime students develop their own opinions by reading, visiting professionals and taking structured notes in a digital journal. Future versions of the course welcome contributions from international institutions.

By the end of the semester students have developed critical thinking, technical report writing, presentation skills, and reflection techniques. They have learned to articulate their thoughts both orally and in writing. The learning goals where focused on self-reflection and report writing. At the end of the course, students use their journal to answer one final question, “What is Physics?”.

In an evaluation of the course, almost all students identified the broad perspective on physics and the future professional field as the most valuable and novel aspect. This is also reflected in their final essay’s on ‘What is Physics?’, in which they explained there new insights into the field using the reflection techniques. Suggested improvement are of a practical nature.