

WORK IT OUT: ENHANCING STUDENTS' PROBLEM SOLVING SKILLS BY MODELLING HOW TO "WORK IT OUT" IN A JUST-IN-TIME LEARNING ENVIRONMENT

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KEYWORDS: inquiry-oriented learning, work-it-out approach to learning, learning apprentices, building a community of scholars

ABSTRACT

Many students arrive at university without the basic skills and background they need to study Physics at a first year university level. This is a significant problem because it impacts on student success rates in majors that include the first year Physics unit/course as a core subject. In order to work with this problem I have been awarded an OLT National Teaching Fellowship. The fellowship will undertake a program of activities and develop open education resources such as short videos of "experts", unpacking a formula, constructing a diagram, reading a textbook, designing an experiment, analysing data and learning new material. Educators can then use these resources to model for their students the basic skills, activities and thought processes that experts employ as a matter of course. Then by the use of well-focused formative assessment, they can encourage their students to emulate what it is that the experts are doing when they work within the discourse of the discipline. This work-it-out (WIO) methodology of engaging students in formative assessment and providing them with resources that demonstrate the way an expert goes about a similar activity, so that they can emulate the ways of the expert, gives students a *modus operandi* – a place to get started – when dealing with Physics coursework.

Proceedings of the Australian Conference on Science and Mathematics Education, Australian National University, Sept 19th to Sept 21st, 2013, page 18, ISBN Number 978-0-9871834-2-2.