USING ASELL AS A FRAMEWORK FOR DRIVING CHANGE

Christopher Stewart[a], Sashi Kant[b], Gareth Denyer[b]

Presenting Author: Christopher Stewart (c.stewart@physics.usyd.edu.au)
[a]School of Physics, University of Sydney, Camperdown NSW 2006, Australia
[b]School of Molecular Biochemistry, University of Sydney, Camperdown NSW 2006, Australia

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ABSTRACT

A 2009 Australian Council of Deans of Science report (Rice, Thomas and O'Toole, 2009) identified the quality of undergraduate laboratory curricula as an important issue in tertiary science education. Evaluation of undergraduate labs traditionally relies on anecdotal evidence about what works and why; changes are often ad-hoc. We need an appropriate evidence-based methodology to clearly articulate the goals and aims of the teaching labs, and evaluate the curricula against these.

Fortunately, such a methodology exists: the ASELL framework (ASELL, 2012) employs research-led surveys and workshops to identify pedagogical and logistical issues with science laboratory experiments, and an iterative process for improvement. Building on past experience with this framework, we are using the ASELL tools to examine laboratory experiments in the Schools of Physics and Molecular Bioscience at the University of Sydney to gain feedback about the level, relevance, degree of challenge, experimental techniques and class logistics. We will identify several experiments at the first year (physics) and second year (biochemistry) level to focus on, and implement changes based on the ASELL analysis — and so armed, to influence colleagues to spread the framework across the Faculty.

Rice, J. W., Thomas, S. M., & O'Toole, P. (2009). *Tertiary Science Education in the 21st Century*, Australian Learning & Teaching Council.

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