

INTERDISCIPLINARY INTEGRATION OF INQUIRY-ORIENTED LEARNING IN SCIENCE

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ABSTRACT

A substantial body of research has demonstrated the considerable value, across a range of educational domains, of integrating inquiry-oriented learning (IOL) activities in undergraduate science, particularly laboratory- and field-based modalities. These initiatives have often been introduced into single disciplines or at particular year levels by lone but skilled and highly motivated innovators. While praiseworthy, such initiatives may lack the synergies and impact that could be gained through more broad scale integration of IOL both horizontally, across a range of science disciplines, and vertically, through the year levels of a science degree. Such an approach provides considerable potential benefits to students, through articulation of a consistent model and template for laboratory activities, and importantly, through the contextual amplification that can be generated through interdisciplinary, inquiry-oriented learning. It also has the potential to strengthen graduate outcomes through greater resolution of curriculum mapping, and resonates strongly with other initiatives including the Learning and Teaching Academic Standards (LTAS) in the sciences project. The current project has engaged 1st year science educators across a range of disciplines (initially biology, chemistry and physics) to collaborate in the development, implementation and evaluation of meaningful IOL initiatives for students as they progress through their degree.

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