

Inquiry-based learning to improve student engagement in a large first year biology topic

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Abstract

The science laboratory has traditionally been used as a platform to apply the content gained through the lecture series. These activities have exposed students to experiments which test the concepts taught but which often result in a predicted outcome. This limits the opportunity for students to develop critical thinking and analysis skills. To improve the engagement and learning outcomes of our large first year biology cohort, the laboratories were redeveloped. Superlabs were run with 100 students attending weekly sessions increasing the amount of contact time from previous years. Laboratories were redeveloped into guided-inquiry and educators facilitated teams of students to design and carryout an experiment. To analyse the impact of the redevelopment on student satisfaction and learning outcomes, students were surveyed and multiple choice exam data was compared before and after the redevelopment. Results suggest high levels of student satisfaction and a significant improvement in student learning outcomes

This New Idea and Emerging Initiative was presented at the 2015 STARS Conference in Melbourne, Australia in July 2015 and selected for publication in *Student Success* Volume 6, Issue 2.

Access published presentation <https://studentsuccessjournal.org/article/view/292>