

TRANSFORMING LABORATORY LEARNING THROUGH WORK INTEGRATED LEARNING

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Background

Students engage best when they see the relevance of what they are doing and learning, and when they can actively participate in that learning. In laboratory based learning one of the best ways to achieve this is to bring commercial/industrial examples into the laboratory classroom. This can be challenging, however with large undergraduate cohorts work integrated learning (WIL) must begin in the undergraduate laboratory due to the logistics of any employer site based activities.

Aim

Redevelop the three undergraduate year levels in Monash Chemistry by increasing inquiry and work integrated learning.

Description of intervention

As part of its three year plan to integrate WIL into the undergraduate Laboratory learning, Monash Chemistry is partnering with industry to develop new workplace authentic practical activities, and revitalize current laboratory activities. Where industry partners cannot be found the chemistry is put in context. An aligned PhD project is monitoring the impact on the students and the teaching staff.

Design and methods

Scientists within industry are approached where a common theme between the industry partner and a practical activity is identified. Industry partners are asked if they would like to talk to Monash about their work and technical interests to see if a relationship can be developed. Appropriate partners are invited to record a video for use in pre-laboratory preparation for the students. The laboratory activity is discussed with the scientists from the industry partner and the relevance to the industry is investigated along with issues:

- how core the science is to their business and why
- how much the techniques they use have changed over time
- what are the future trends they foresee in their area

Results

Three new activities are being introduced for second semester and an industry engagement plan has been developed. Video prelabs have been developed for four activities, presenting industry specialist to the students and having them provide the background for the activity. For example the chief scientist at Dulux was interviewed about certain aspects of chemistry in paint production to introduce students to the chemistry of particle size in paint. Alternatively a Mettler Toledo representative is introducing our students to the system of Good Laboratory Practice (GLP), an international system to which industry laboratories are commonly certified.

Conclusions

Industry is very receptive to engagement by academic institutions but they do not realise what they have to offer. It is important to refine the idea that you want to discuss with an industry partner and have a strategy for engagement when you approach them in order to maximize the success rate.

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