

Learning biochemistry in peer groups – a new approach which enhances the student experience

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Abstract: University teaching of biochemistry has traditionally been based on delivery of the curriculum in lectures and practical classes. We have designed and implemented a new teaching and learning program for the second year biochemistry curriculum. In this program, student-centred learning activities in Peer Groups form a central element of the teaching. Structured discussions, concept mapping and problem solving exercises are performed in Peer Groups managed by the students. These activities enable the students to become active learners and share their understanding of biochemistry, in an alternative setting. Additional sharing of ideas occurs through student-generated materials, WebBoard discussions and seminars. The Peer Group program enables the students to adopt new approaches to learning, achieve greater cognitive engagement with the subject, and enhance their communication and teamwork skills.

Note: Since the workshop Marian has received a faculty teaching award for her Peer Group program.

Learning in laboratory – research on student and staff perceptions

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Abstract: The undergraduate science laboratory environment allows individual attention to each student, development and enhancement of diverse practical, planning and communication skills and support of lecture material. Laboratory offers rich learning opportunities to students; hence it is appropriate to investigate staff and students' expectations of and reflections on that experience.

An investigation of how students learn in laboratory sessions will follow a cohort of Physics students through their first, second and third year studies.

A preliminary investigation involved extended interviews with academic staff and postgraduate student demonstrators and identified a range of intended outcomes of laboratory programs. Staff holding strong views have of course influenced the objectives and the implementation of our laboratory programs.

A survey of 200 first year Physics students demonstrated a range of views of the purpose of their school laboratory work and expectations for their tertiary studies. Weekly surveys of 80 of that cohort are charting their experiences in our laboratory, their perceptions of the intention and value to them of each activity. Such information allows us to measure the success of our activities and to discover flaws and benefits from the students' perspective.

In-depth interviews and observations of laboratory classes will follow, with the outcomes of this research expected to identify some of the factors of value to students, recognising their different goals and learning styles. Science laboratory work needs a solid research basis to provide effective learning.