

# AN EVALUATION AND REDEVELOPMENT OF CURRENT FIRST YEAR LABORATORY PRACTICES

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## ABSTRACT

Chemical education is an important area of research as it directly impacts upon the production of capable scientists. This study involved evaluation and redevelopment of first year laboratory experiments in Chemistry 1 at the School of Chemistry, UTAS, with respect to the teaching styles implemented. The teaching styles focused on expository, guided inquiry, and problem solving to be applied to two experiments. The aims of this study included the investigation into the engagement and input of both students and demonstrators, the understanding achieved by students through completion of the laboratory experiment, and the enjoyment of participating and completing the laboratory experiment. The underlying goal was the construction of a foundation for further research into the differences between teaching styles when applied to laboratory courses.

The major outcomes of this study found that both problem solving and guided inquiry had greater success than expository in areas such as the engagement of students within the laboratory environment, and the students gaining a deeper understanding of the chemical concepts. In addition, expository and problem solving was found to have more acceptable workloads than guided inquiry. The greatest contribution of this study was the foundation for further study to be continued into this field of research.

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