APPLYING THE ASELL FRAMEWORK FOR IMPROVEMENT OF A FIRST YEAR PHYSICS LABORATORY PROGRAM

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ABSTRACT

Physics 115 is a first-year non-calculus based unit offered to a wide range of students from various disciplines. The unit is taken by about 350 students per year, who have little or no background in physics. One of the assessment components of the unit is laboratory work which involves taking measurements, calculating uncertainties, performing data analysis, interpreting results and submitting formal written reports for assessment. In order to better understand students' views on their laboratory experience, an extensive survey program was initiated by the project team in Semester 2, 2009. The survey data was analysed to investigate the characteristics of each of the six experiments. The results from the student responses indicated that two of the six experiments, "Simple Pendulum" and "Radioactivity Measurements", needed revision.

In order to obtain further detailed feedback from peers (students and staff from other universities), the two experiments were presented at the ASELL* Workshop held at the University of Adelaide in April 2010. As a result of the feedback from the ASELL Workshop, the "Radioactivity Measurements" experiment was immediately revised and presented to students in May of 2010. At the conclusion of the experiment, students' feedback was once again collected and analysed. We will present the process, and results of the pre- and post- evaluation of this modified experiment, and demonstrate the effectiveness and power of the ASELL framework.
*ASELL (Advancing Science by Enhancing Learning in the Laboratory)

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