Role-Playing to Replace the Traditional Laboratory Experiment

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Proposal Summary: The majority view is that the laboratory course exists to re-inforce lecture. While the utility of lab courses at achieving this goal is hotly debated there is little disagreement that traditional lab courses have become formulaic and do a poor job of inspiring enthusiasm for science. Most labs are designed with a hypothesis or question and a known answer. It is the job of the student to achieve this answer. Science requires creativity but this is not evident from our lab courses. In an effort to simplify grading, mass produce and standardize courses we have driven creativity from the classroom. Herein is proposed an investigative model for laboratory design where students ‘role-play’ as research chemists. With this approach we propose to introduce creativity into the classroom and target learning processes difficultly achieved with a lecture by placing students within ‘Scenarios’. Within a scenario students are given a task similar to that of a researcher or an industrial chemist. For example, the development or improvement of a product. We propose to develop an initial demonstration of this lab strategy where using a scenario experiment where students utilize latexes to develop a water-based nail polish product in a similar setting to that of an industry research scientist.

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