

Mixing Up the Recipe: Inquiry-Based Learning in First-Year Undergraduate Labs

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Active learning has proven to be a very effective method for student understanding. There are many benefits when students actively engage in the materials they are learning about and take ownership of their learning, such as having a tendency to understand concepts better, being able to articulate their knowledge more thoroughly, and having a longer lasting understanding. Not surprisingly, labs are an excellent opportunity to allow students to engage in the material, however, often times the lab exercises are a set of steps with an outcome that is consistent over many times, and ultimately, the students aren't engaged in asking questions about what they are doing. At Augustana, we have recently ventured into making some of our introductory biology 'cookbook' labs into inquiry-based exercises. Here I: i) outline a lab exercise that was converted to inquiry-based learning, ii) explain how we implemented the changed format, iii) what did and did not work, and iv) lessons learned from this change. Ultimately, we found students had a high level of understanding of the concepts upon completion of the revised lab exercise.

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