**Students as mentors—an investigation of student learning in a cell biology course**

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**What is the central question, issue, or problem you plan to explore in your proposed work?**

It is not uncommon for students in the sciences to have courses heavy in content, with less emphasis on scientific methodology. To address this issue, forty eight students in my cell biology course are serving as science fair project mentors for 6-10 grade students at a local inner city charter school (BFMASS). My central focus is on whether or not students who serve as mentors for science fair projects will have a better understanding of scientific process and the Jesuit mission.

**Question:** *How do students come to understand science as a process rather than a collection of facts?*

**Why is your central question, issue, or problem important to you and to others who might benefit from or build on your findings?**

In order to compete for post-undergraduate education or jobs in biotechnology, students need to have a solid background in scientific research and laboratory skills. This project not only allows students to design and implement individual research projects, but it does so in the context of students serving as mentors in the community.

**Interested audiences for this work may include:**

* Faculty at institutions who value service learning in the classroom
* Biology faculty interested in incorporating research projects into their curriculum

**In this project, Rockhurst students work in groups of three to mentor a single student (in 6-10th grade) from BFMASS.**

The project involves:

* Brainstorming for experimental ideas.
* Filling out appropriate paper work for the science fair.
* Writing and submitting a research plan for approval by science fair officials.
* Making a supply list.
* Conducting experiments (at BFMASS).
* Collecting and organizing data.
* Poster assembly.
* Periodic reflection pieces and final reflection paper.

**Types of evidence being collected:**

1. Pre and post Views About Science Survey (VASS).
2. Periodic reflection papers.
3. Performance on exam questions related to data interpretation.

**Questions and Ideas for Future Directions:**

* Revision of my question/problem?
* Clarify a process to evaluate the evidence of student learning
* Think more carefully about how to measure the impact of the project on BFMASS students.
* Include documentation student-mentor interactions? (possibly via taping of sessions)
* Set specific/measurable criteria for science fair projects
* Gather evidence of the impact of the project over a longer period of time. For example, do BFMASS students who participate in this project continue to pursue scientific research opportunities? Do Rockhurst students who participate in this project continue to be involved in community work?