

Seriously, Teacher.... when will I ever use THIS?

Bridging Science core curriculum and Science oriented careers
for inner city high school students

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Abstract:

The purpose of this action research proposal is to introduce and gauge student interest, specifically disadvantaged high school students, in science oriented careers. I intend to use lab activities, case studies, discussion and role play to implement the subject matter into core curriculum. According to an MTF study, male high school students prioritize salary and free time in their future careers whereas female high school students did not place as much emphasis on salary but on contribution to society (Joos, 2003). Using this information, I intend to highlight these aspects when introducing the varying science careers to deepen student interest.

Rationale:

As most of us know, students come to science whether either expectation or dread; either way the majority of students often view their science classes as something to "get through" and not something they would do for the rest of their lives. This holds especially true for students with a disadvantaged background. Their families are usually working menial jobs and they don't know anyone who has a science career; it makes it seem even more unrealistic as an option for them. When my students are asked about science careers they will refer to health care (specifically nurse and doctor); the only science careers they have had any experience with. I must overcome the fear of science and present unknown possibilities to students who come to school thinking that they cannot afford to look past their own neighborhood.

I plan to accomplish this task using case studies accompanying lab activities. Case studies will introduce the student to the career in way that will be more compelling than straight lecture or

article reading. (Richardson, 1997) Case studies created for teaching are stories with a beginning, middle, and end. The teacher teaches, the characters interact, and the story ends. The reader is drawn into the stories....Because methods teachers must strike a delicate balance between preparing students for the real world and inspiring them with enthusiasm about their chosen careers, it is important that the cases err just a touch on the positive side...(p.28)

For those careers that I cannot build a lab activity for I will use role playing to draw the student in and better envision themselves in a specific role. (Cherif, 1995) For example, by playing out how scientists appeal to government for research funds, students can experience a microcosm of the real world. Such role playing provides an engaging opportunity to discuss conflicting views on scientific issues, and also demonstrates how social, political and economic issues change the direction and nature of science, while exploring the moral, ethical and social dimensions of our society. (p.28) When role playing is not feasible than active class discussion will take place.

I believe all of these teaching techniques will effectively educate my students about the various careers and, in doing so, will inspire them to pursue their own careers in science.

Action Research Intervention:

- Lab activities
- Case studies
- Career Research assignment with discussion
- Role Play

Data Collection and analysis

- Surveys
- Pre and Post Tests
- Teacher Journal – perception of how the lesson was received

Connections to Bench to Bedside Summer Institute:

I had made up my mind last school year to integrate career education into my curriculum. I was incredibly unsure as to how I was going to do this but I had a general idea based off of my investigations. Coming to this institute was amazing as it gave me a plethora of resources that were not previously available to me and taught me a new method of self-evaluation. I was made aware of many more science careers that I had not been able to uncover through my own extensive research. Through the use of their locker system, I will be able to provide my students with activities that I could not have possibly afforded and that will deepen their learning experience. Truly a fantastic resource that needs to continue until every science teacher has had a chance to experience it and bring it to their classrooms.

Budget and budget justification:

Lab supplies (provided by CPET locker system)	\$0
Clicker system	\$438.00
Copies and supplemental papers (provided by school)	\$0
Supplemental lab supplies (gloves, food coloring, etc.)	~\$50

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Total

~\$488.00

Works Cited:

Cherif, H. a. (1995). Maximizing Learning: Using Role Playing in the Classroom. *The American Biology Teacher*, Vol. 57, No. 1, 28-33.

Jarvis, P. (1999). *The Practitioner-Researcher. Developing Theory from Practice. Jossey-Bass Higher and Adult Education Series*. San Francisco: Jossey-Bass Publishers.

Joos, K. (2003). *What does it mean to be a success? : the future goals and values of American teenagers*. Gainesville: UF Dissertation.

Richardson, C. (1997). Using Case Studies in the Methods Classroom.
<http://www.jstor.org/stable/10.2307/3399064>, 28.