

Making Physics ‘Girly’ Without the Pink: Changing the way girls relate to science

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Introduction:

Science, Technology, Engineering and Mathematics have a long history for being male dominated careers. Although this is changing gradually, research shows that girls lose interest in the middle grades (Zembar, 2009). As a middle school teacher, this is my call-to-action.

At Palo Verde Nuclear Generating Station (PVNGS) women are underrepresented in STEM roles and leadership. During my three summers at PVNGS I am more aware of the lack of women at the site. There are few women in leadership roles compared to clerical jobs, which are held by mostly women.

Findings:

As a result of learning Physics reframed through a social context, girls saw the value, felt confident and liked science more because it supported their gender identity. There was no systematic relationship between gender identity and perception of science as a result of learning physics through a social context. This indicates that either physics is not associated with gender identity therefore correlations were random or that my treatment did not effectively transform girl’s relationships with science. Students were provided an experience with increased relevancy and relationships to the real world which provided girls with an opportunity to see how science can better peoples’ lives and our society as a whole.

Action plan:

In my classroom, I would like to explore ways to increase self-confidence and capability throughout the year. With this information I would be able to better design units and lessons to encourage girls’ confidence and capability. I would like to continue to adapt my curriculum to meet the needs of my female students and find additional ways to encourage them to be interested in STEM. I plan to continue exploring girl’s attitudes and feelings towards science as well as reevaluate how gender identity relates. I will explore the relationship between relevancy, career interests and engagement in a variety of science units. The next question to explore is “why the increase?” It is important to note that relevancy does increase when content is reframed.

