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Improving Female Science Scores Through STEM Curriculum

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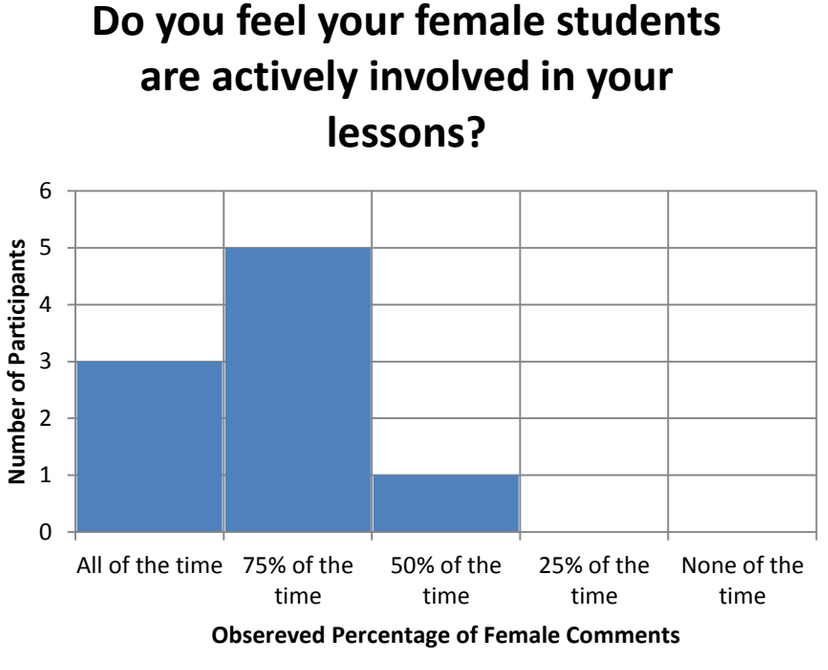
Background:

- Science, Technology, Engineering, Mathematics (STEM) is an integrated curriculum that focuses on higher level thinking (2013, Basham & Marino)
- Focuses on real world application, career skills and information on careers
    - This utilizes the Engineering Design Process
- In the USA we rank 25th in mathematics and 17th in science (2013, United States Department of Education)
- Increase of STEM Careers each year
- Gender roles and self- efficacy plays a role in females thinking about success in STEM
- New curriculum calls for an integrated and real-world application

Survey and Results:

- A survey among Dayton Area Middle School (5th-8th grade) mathematics and science teachers was conducted
- Teachers took a short survey that focused on their teaching methods and how their males and females view their subject
- Teachers found that females enjoyed the hands-on activities and males enjoyed the problem solving. Both genders enjoyed team work.
- Approximately 25% of female students said science was too hard
- Approximately 50% of female students are interested in pursuing a degree in STEM
- Approximately 75% of female students are active in the lesson



Conclusions:

- Females are more active in class
- Increased interest in STEM Careers
- Females breaking out of stereotypes
- Ties into current curriculum