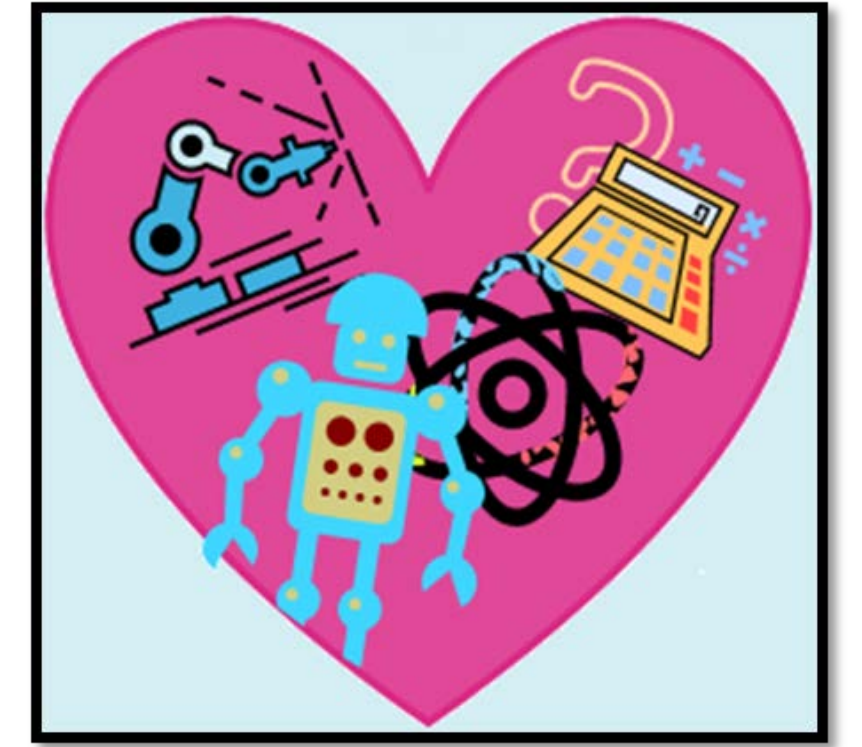


Science, Technology, Engineering and Mathematics (STEM) Careers: Strategies for Engaging and Recruiting Girls

1. Marilyn Barger, FLATE - Florida Advanced Technological Education Center at Hillsborough Community College
2. Marie Boyette, FLATE - Florida Advanced Technological Education Center at Hillsborough Community College
3. Nina Stokes, FLATE - Florida Advanced Technological Education Center at Hillsborough Community College

Abstract

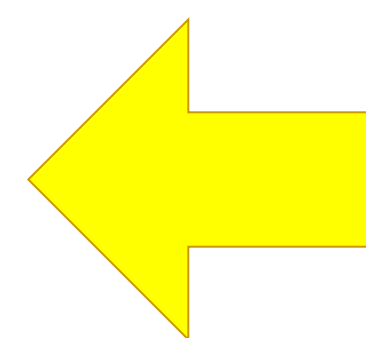
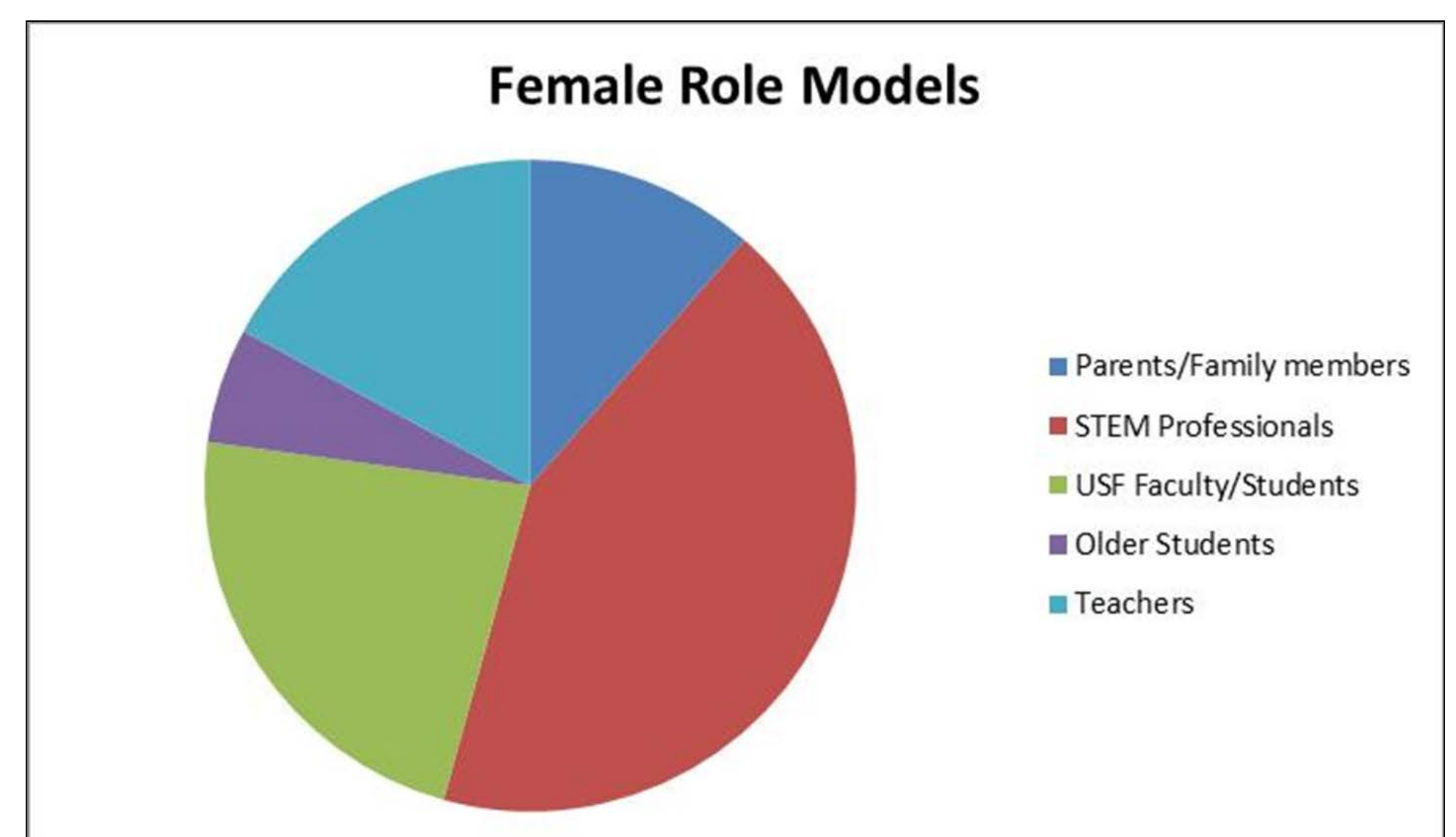
There is a desperate need for more STEM professionals across the country and across business sectors – increasing the number of females can help fill that gap. The Florida Advanced Technological Education Center of Excellence (FLATE) has a special initiative for recruiting young girls into STEM courses and careers. A pilot program in its home county began in June 2013 with an intensive all-day workshop at Hillsborough Community College for local and regional educators. Attendees were invited to submit implementation plans for a program in their school using the strategies learned at the workshop and an implementation plan template provided by FLATE. The goal was to boost their female enrollments in various STEM programs.



Collaborate, Encourage, Lead by Example

Teachers were asked what types of female role models they would use to inspire and encourage girls to pursue STEM careers. The majority indicated that they would use female STEM professionals, followed by local university (USF: University of South Florida) faculty and students, teachers and parents and/or family members.

- Guest speakers
- Mentors/advocators
- Shadowing opportunities
- Research projects
- Video clips showing female professionals
- HGTV Channel
- School closed-circuit TV – female teachers demonstrating various science experiments and math magic



In addition to *who* teachers identified as potential female role models, the following list identifies *how* teachers planned for the female role models to be involved.



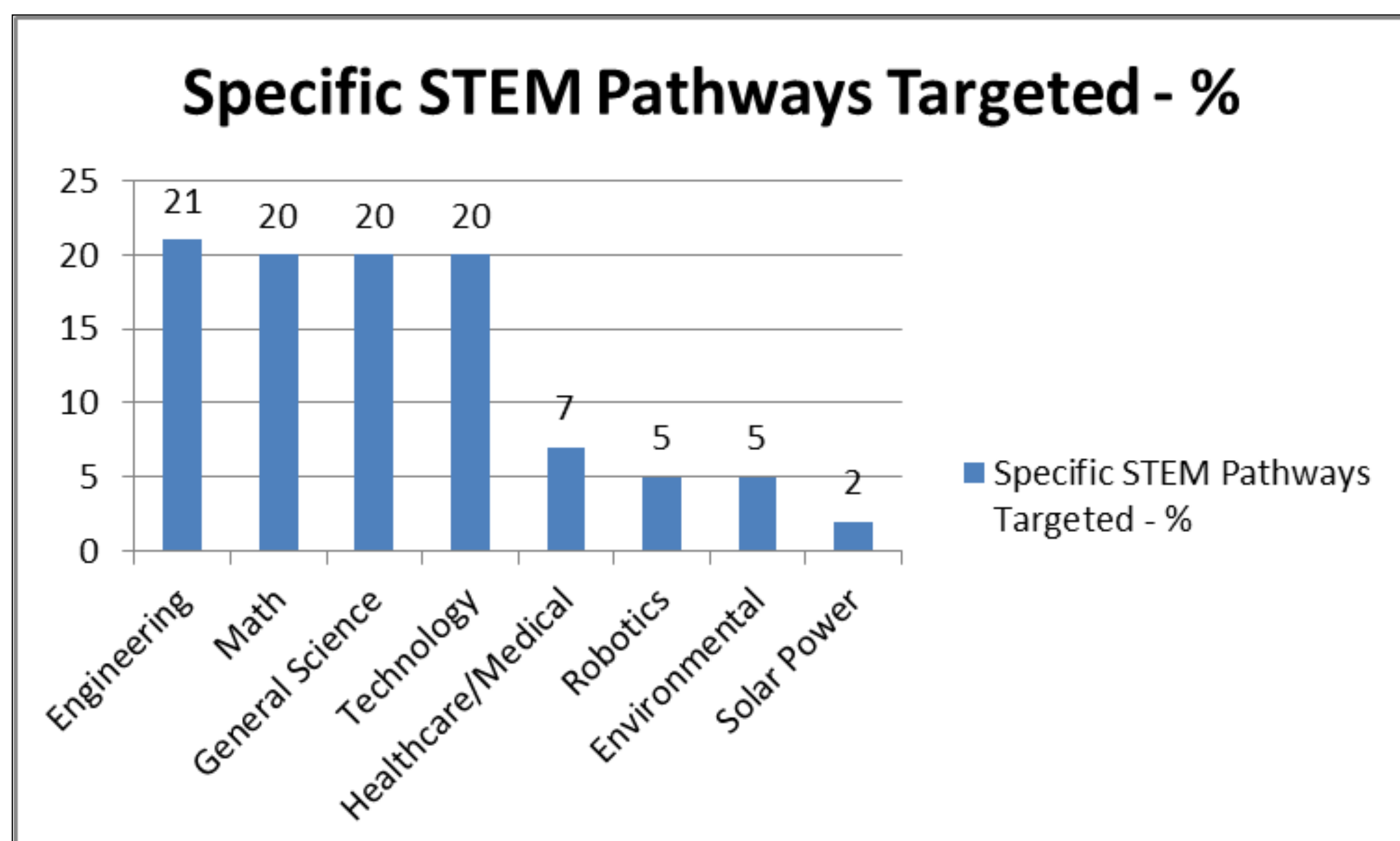
Collaborate, Encourage, Lead by Example

A selection of teachers' responses to the question, "What types of encouragement/influence will you use within your classroom and with other educational professionals?"

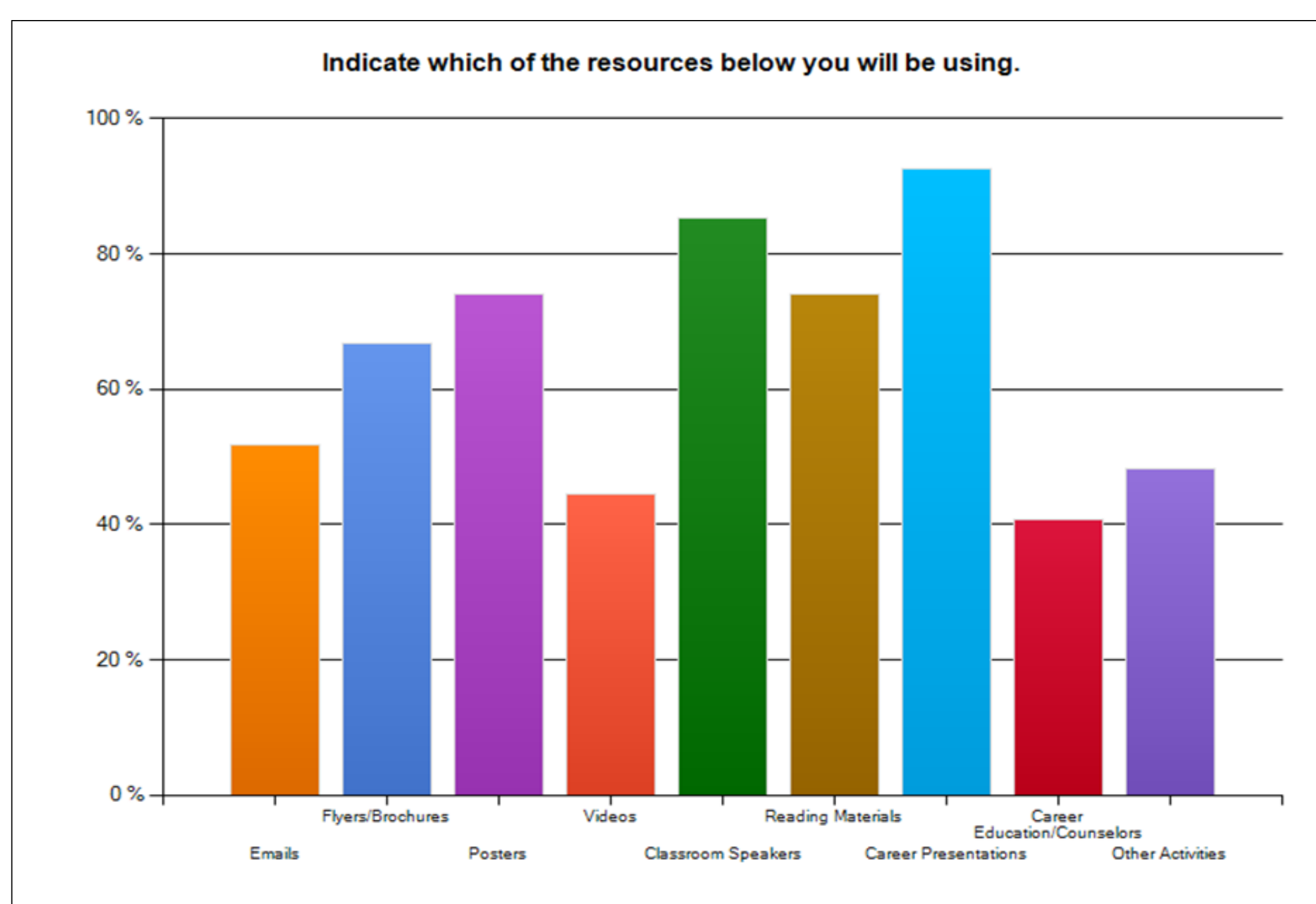


- Encourage girls to pursue that career/field of study that interests them the most
- Clubs that give girls one-on-one time to explore STEM careers will serve as encouragement, with t-shirts and a name to attract girls who want to feel part of a social group
- Consult the district's secondary science department, and collaborate with the science resource teachers and request information that explains real world applications of math and science careers
- Share examples from our own lives to show females in the STEM careers
- Displays/posters/visuals highlighting females in STEM careers
- Girls Lunch Bunch to promote leadership while discussing current females who are influential in the community and/or media
- Mentoring, service opportunities, tangible rewards for deliverables - t-shirts, stationary, etc.
- Focus on real-world application and job experience of STEM occupations
- Provide options and information on careers and possible pathways
- Encourage co-workers to attend more science/STEM training

STEM programs/career pathways which attendees indicated they would like targeted to increase female participation:



Developing an outreach plan is an essential component of any implementation plan, and respondents were asked to list the resources they would utilize to develop a plan for outreach materials for their program. The chart below displays the responses aggregated from the submitted implementation plans. Career presentations and classroom speakers ranked the highest, and are relatively low cost and easy to implement by most teachers. The "Other" activities portion of the chart included using the resources found on the [FLATE wiki site](#), including a variety of hands-on, STEM-themed lesson plans and information, to engage students with real-world scenarios relevant to their lives.



A follow-up survey is planned to find out how these teachers' plans are progressing, as well as challenges they have faced and continue to face, as they move forward in their efforts to recruit more girls to STEM careers.