

Strategies to Increase Female
Involvement in Technology.
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Overview

Progressive insights to understand what motivates girls to challenge their Personal intellects and compete in a career traditionally dominated by men has Provided new opportunities that appeal to a larger number of girls. At Oak Grove High School in San Jose, CA female interest in the Robotics program which includes: Engineering, math, science, and technology appears at this time to often be culturally based. Girls that have shown the greatest interest and follow-through come mostly from Families who have immigrated from other countries and want a better future for their Children. These families often come from very poor countries and/or countries that have been devastated with war and violence. These students are often the first in their families to graduate high school and the first in their families to seek a college education.

Girls from traditional American families have shown interest in the Robotics Program saying they wanted to be involved, however, when it came time to make a Commitment for meetings and developing projects, they chose a more traditional path of social clubs, sports, and other academic achievements.

Strategies to attract females to careers in technology.

This paper focuses on behaviors and interest of girls/women to identify strategies and opportunities that will appeal to a larger number of girls/women in the fields of engineering, math, science, and technology. Following are

examples to attract more females from an early age through elementary school, middle school, junior high, high school, college, and transitioning into the engineering and technology work place:

- Computer games with team work and cooperation.
- CD ROMS with girl appeal
- Computers and Internet resources for world connectivity and social causes.
- Opportunities to interface with a variety of professions early on.
- Availability of electronic information tools
- Interface design with colorful and fun designs
- Websites with issues related to girls' interests
- Art with technology incorporated
- Music with use of technology and computers
- Technical competence to be a cool thing for girls
- Incorporate art, music in engineering, and technology
- Multimedia Concentration where girls are encouraged to develop technology.
- Job Shadowing- Working with a women at a technology job site
- Career choices and opportunities examples early on.
- Having a women mentor for career choice, starting as early as possible.
- Flexible work hours and telecommuting.
- Work environment that embraces multi ethnic/racial backgrounds.

The future jobs for women in technology?

Job predictions from the U.S. Department of Labor predicts that jobs for engineering and technology will continue at a growth rate four times the national average for other jobs. This increases the window of opportunity for females and other minority groups to Capitalize on employers recognizing and emphasizing the value of diversity. Employers, currently are creating and supporting outreach efforts to attract more women into fields traditionally held by men. (<http://www.questia.com>)

In general the jobs in technology pay four to five times higher wages than other professional jobs and tend to have flexible hours and other options for higher and better living conditions.

Currently, more than 60% of jobs require technology and over 50% of labor force is women. Therefore, it is vital to our economy that women participate, and succeed in fields of technology and engineering. That percentage will continue to increase during our lifetime. Girls and women need to know that they CAN succeed in fields of engineering, math, science and technology, and that their participation is vital to strengthen our economy.

(<http://www.girlscoutsbayarea.org>)

Secrets educators need to know to increase female success in technology.

Our job as educators is to understand the incongruity among perceptions as to the reality of fewer women pursuing careers in engineering and technology programs. We need to understand the self-perception of young girls and follow those self-perceptions as they change and grow into young women. We need to understand what motivates young women, what catches the interest of young women and how to build

women's self-confidence in technology.

We need to emphasize the fact that men and women's brains have identical capabilities for technology and math. It is the choice one makes early in their childhood , that hampers or enhances her skills in the subjects of interest..

We need to build a new paradigm illustrating to girls/women experiences that motivate and build new perceptions showing that women are at the top of their class in engineering and technology classes, and are the CEO of high tech industries. .

(<http://www.questia.com>)

We need to understand the negative images the media and the tabloids bombard our girls with from a very early childhood and continue it throughout their active life, peaking during the critical teen years. We have to come up with counter strategies that are multifaceted and relentless in showing them the alternatives and options for a happier and fulfilling future by focusing their talents and developing skills to help themselves and the world around them.

Overcoming barriers by providing technological experience.

Provide opportunities for girls to use basic tools in science, engineering, math, and technology classes. Introduce projects that require the use of hammers, screwdrivers, pliers, wire cutters, soldering guns, simple wiring etc. Teach a unit in Simple Machines, Forces and Motion, and other Physical Science basics. Include math formulas, geometry, and math equations common to fields in technology. Teach girls how to create and read technical drawings, and how to write technical papers. When girls are provided these experiences they are on a equal ground with boys. By having the same and equal experiences, both girls and boys can do a better job of collaborating because they

can communicate using technological terms that both genders can understand. (Cooper, Keating, Harwin, & Dautenhahn. 1999)

By overcoming barriers that have traditionally impeded women's success in computer and technology related fields women will gain access to the high-status high salaried jobs traditionally held by men. (<http://girlstech.douglass.rutgers.edu>).

Can girls transfer feelings of “making a difference” into careers of engineering?

Research shows that girls prefer to be involved in projects where they can make a difference, rather than projects that require fierce competition. Technology is the same for building war machines, or machines that can bring peace and prosperity. Cell phones can be used to communicate with another human, or be used as the trigger to set off a bomb that injures humanity. By collaboration, communication, and problem-solving, technology can be utilized to resolve Global issues.

Bioengineering is an exponentially growing field and it has tremendous potential for betterment of human life. Jobs in Bioengineering pay wages in upper 10% of other professional fields. Bioengineering provides a unique opportunity to combine math, engineering and human compassion into a very successful career and make a difference. Solar, alternate energy, environmental engineering, medical research and technology, space explorations, nanotechnology and many other upcoming fields of research have their roots in basic math and problem solving skills learnt in elementary schools. All these fields and others have helped the human race to be what it is today and will continue to shape our future.

A future, where women have a hand in shaping it is lot brighter and humane than the future shaped by just men.

What motivates young women, and what motives young men, can be forged into a united effort. Together, boys and girls/men and women can pursue marketing ideas that are sound, and will improve the quality of life world-wide. Together, men and women can unite their unique strengths as a diverse work force accepting cultural and gender differences and turn that energy into a powerful career success in engineering.

References

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