Do You Know Where You’re Going To?

Judy M. Vance, Ph.D.
Professor
Mechanical Engineering
Iowa State University

Program Director
Engineering Design
National Science Foundation
Discover Your Strengths
Marcus Buckingham and Donald O. Cliffton

- Learner
- Input
- Intellection
- Achiever
- Harmony
My History

- Wisconsin – LaCrosse
- Iowa – Fort Dodge
- Iowa – Ames
- Iowa – Des Moines
- Iowa – Ames
- Washington, D.C.
Fellow Lady Astronaut Trainees
The Mercury 13 1958 - 1962

- All but one of the 6 women began in very ordinary circumstances.
- Despite formidable obstacles, each forged a path into aviation and dreamed of a role in spaceflight.

Sullivan, Kathryn D., “Ad Astra per Aspera”, American Scientist, Jan-Feb 2004
The country’s economic and national security depends upon its capacity for innovation.

The “quiet crisis” requires engaging everyone, including women and minorities who have traditionally been underrepresented in STEM fields.
Women have the kinds of strengths – such as being able to multi-task, integrate and organize information and visualize solutions – that will be required to help solve the problems engineers will face in the future.
Fellow Lady Astronaut Trainees
The Mercury 13

- NASA never seriously considered giving the six women in the FLAT program astronaut status.
- It wasn’t a lack of qualifications that kept them out of the running; prevailing social views and competing political objectives did.

Sullivan, Kathryn D., “Ad Astra per Aspera“, American Scientist, Jan-Feb 2004
Factors for Career Success
Survey of Men and Women in Chemical Industry

- Mentoring is hugely important
  (Identified by both men and women)

Shirley Ann Jackson
President, Rensselaer Polytechnic Institute

- First African American woman
  - To receive the Vannevar Bush Award
  - To receive a doctoral award in Physics from MIT
  - To chair the Nuclear Regulatory Commission
  - To be elected to the National Academy of Engineering
  - To be president of a major national research university

NSF Press release 07-032, March 22, 2007
Shirley Tilghman
President, Princeton University

- Recognizing that in order to do it, you’re going to have to give up some things. You give up the pottery class on the weekends.
- You know you have limited time at each activity, whether it’s at home or at work, and you make the most of those hours.

Kristina M. Johnson
Dean, Pratt School of Engr, Duke Univ

- Successful women in technology seem to share these traits: “focus, commitment, and enthusiasm and passion for their jobs.”

Stephanie Kwolek
Inventor of Kevlar

- My discovery involved both intuition and the scientific process. It also involved some good luck and perseverance, when conditions looked most hopeless.
- An eye trained to observe small differences in progress and product helped too.
- And creativity made a difference.

Quinn, Jim, “I was able to be creative and work as hard as I wanted”, Hall of Fame Interview, Invention and Technology, Winter 2003.
VRNets

The first lesson is no guilt. We have to allow women to say that it is fully legitimate to be at work, it is fully legitimate to be at home – and you shouldn’t feel guilty when you’re in either one of those places. You do what you can do. It’s about balance.

Nancy Pelosi
Speaker of the U.S. House of Rep

- Including being Speaker of the House, the best jobs I have had are as a mother and a grandmother.

Data

- From 1930 to 2007, there has only been one woman president of AIAA: Sheila Widnall (2000)
Factors for Career Success
Survey of Men and Women in Chemical Industry

• Women
  • Blow your own horn
  • Be on highly visible projects where contributions can be recognized and rewarded

• Men
  • Ability to relocate

The Next Generation

- Opportunities for the next generation of women to thrive in industrial settings will increase as younger women coming up through the pipeline are better informed and prepared.

Grace Murray Hopper
Rear Admiral, U.S. Navy

- Kept a clock in her office that ran counterclockwise to demonstrate that there is always more than one way to do things.

Do you know where you’re going to?
Do you like the things that life is showing you?
Where are you going to? Do you know?
Do you get what you’re hoping for?
When you look behind you there’s no open door -
What are you hoping for?
Do you know?