Why Do You Want to be an Engineer?

Univ. of Idaho STEM Research
Engineering student survey
Micron engineer survey
Idaho/Micron STEM research

Major Conclusions (to date)

▶ Student interest in math and science decline as they progress through school.
▶ Career Awareness – disconnect between liking math and science and wanting a STEM career
▶ Parent Influence – ability/inability to help students with math and science
Why Do you want to be an engineer?  
Survey - Current college students

- Demographics
  - 70% male/30% female
  - 86% Caucasian
  - 56% from suburban
  - Average age: 21
  - BSU, RIT, Iowa State
    - UW and BYU are releasing survey any day
Why Do you want to be an engineer?
Survey - Current college students

- At what age did you consider being an engineer? 16.1

- What is the single biggest influence to become an engineer?
  - Parents – 38.3%
  - Other (self) – 28.4%
  - Teacher – 16.5
Why Do you want to be an engineer?  
Survey - Current college students

▶ What makes you want to be an engineer? (multiple responses ok)
  - Like to problem solve - 76.5%
  - Like math and science - 71.6%
  - Money - 58.1%

▶ Do you know someone who is an engineer?
  - Yes - 80%
    • Parent (usually dad) = 18.2%
    • Relative (other than parent) = 29%
      • Uncle = 10.6%
    • Teacher = 1.3%

June 23, 2014
Why Do you want to be an engineer?  
Survey - Current college students

▶ Have you ever attended an engineering camp, competition or other event that enhanced your interest in engineering?

- No – 53%
- Summer internship – 17.8%
- FIRST – 10.1%
- Science Olympiad – 7.7%
- Other – 21.5%
Why Do you want to be an engineer?  
Survey – Micron Engineers

- Demographics
  - 89% male/11% female
  - 46% from suburban

- How many years ago did you graduate from an engineering school?
  - 1-4 – 17%
  - 5-10 – 25%
  - 11-16 – 21%
  - 17+ - 37%
Why Do you want to be an engineer?
Survey – Micron engineers

- At what age did you consider being an engineer?  16.7

- What is the single biggest influence to become an engineer?
  - Parents – 38%
  - Other (self) – 26%
  - Teacher – 15%
Why Do you want to be an engineer?
Survey – Micron Engineers

▷ What makes you want to be an engineer? (multiple responses ok)
  ▪ Like math and science - 80%
  ▪ Like to problem solve – 74%
  ▪ Money – 44%

▷ Growing up, did you know someone who was an engineer?
  ▪ Yes – 49%
    • Parent (usually dad) = 38.3%
    • Relative (other than parent) = 38.6%
      • Uncle = 20.6%
    • Teacher = 2.0% (most of them scout masters)
Why Do you want to be an engineer?  
Survey – Micron Engineers

- Have you ever attended an engineering camp, competition or other event that enhanced your interest in engineering?
  - No - 78%
  - Yes - 22%
    - 1-4 years - 22%
    - 5-10 years - 28%
    - 11-16 years - 23%
    - 17+ years - 27%

If yes, Science Olympiad, JETS, USU Engineering State, various science competitions
UG Engineering enrollment 2011-2013

- UW
- Iowa St
- BYU
- BSU
- Idaho
2014 ideas

▶ Brochure for parents to leave behind after classroom lessons...conversation starter about engineering careers
▶ Adding communication to parents whenever possible
▶ Student website
▶ Providing more information for parents to help provide guidance and materials to help start the conversation...does your student like problem solving, math and science...then a career in engineering could be in their future....
2014 ideas

» Do they enjoy math….don’t have to be at the top of the class..just have an interest

» Career awareness upgrade

» Grants – have a parent component
### Current Engineering Students

**At what age did you consider being an engineer?** 16.1

**What is the single biggest influence to become an engineer?**
- Parents – 38.3%
- Other (self) – 28.4%
- Teacher – 16.5%

**What makes you want to be an engineer?** (multiple responses ok)
- **Like to problem solve** - 76.5%
- Like math and science - 71.6%
- Money - 58.1%

**Do you know someone who is an engineer?**
- Yes – 80%
  - Parent (usually dad) = 18.2%
  - Relative (other than parent) = 29%
  - Uncle = 10.6%
  - Teacher = 1.3%

**Have you ever attended an engineering camp, competition or other event that enhanced your interest in engineering?**
- No – 53%
- Yes – 47%
  - Summer internship – 17.8%
  - FIRST – 10.1%
  - Science Olympiad – 7.7%
  - Other – 21.5%

### Engineers at Micron (domestic)

**At what age did you consider being an engineer?** 16.7

**What was the single biggest influence to become an engineer?**
- Parents – 38%
- Other (self) – 26%
- Teacher – 15%

**What made you want to be an engineer?** (multiple responses ok)
- **Like math and science** - 80%
- Like to problem solve – 74%
- Money – 44%

**Did you know someone who was an engineer?**
- Yes – 49%
  - Parent (usually dad) = 38%
  - Relative (other than parent) = 38.6%
  - Uncle = 20.6%
  - Teacher = 2.0% (most of them scout masters)

**Have you ever attended an engineering camp, competition or other event that enhanced your interest in engineering?**
- No – 78%
- Yes – 22%
  - 1-4 years – 22%
  - 5-10 years – 28%
  - 11-16 years - 23%
  - 17+ years – 27%

**If yes, Science Olympiad, JETS, USU Engineering State, various science competitions**
What other factors made you want to be an engineer? (employees, broken out by how long ago did you graduate?)

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<th>#</th>
<th>Answer</th>
<th>1-4</th>
<th>5-10</th>
<th>11-16</th>
<th>17+</th>
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