Agenda

Introduction and Background

Panelist Presentations
- Yvonne Kao
- Snehal Bhakta
- Zach Wagner

Panel Conversation – What’s been missing and what’s next?
Introductions

Steve Sandak

Snehal Bhakta

Yvonne Kao

Zach Wagner
The STEM Drain: Why it’s happening and what we can do to stop it.
YVONNE KAO
SENIOR RESEARCHER ASSOCIATE,
WESTED
Interest and Equity in STEM Education: The Perils and Promise of Technology
Equity in Computer Science Education

Curiosity and interest in computer science has dramatically increased in recent years, but access and equity remain a challenge.

Data source: http://home.cc.gatech.edu/ice-gt/594
Lessons Learned from Computer Science Education

- Teach the “big ideas” of the field
- Students need to engage critical thinking and problem-solving skills
- Opportunity, interest, confidence, and persistence are mutually reinforcing
The Perils and Promise of Technology

- Content that is central to the discipline
- Difficult to teach and learn
- Technology provides new ways to engage

SNEHAL BHAKTA
CAREER AND TECHNICAL EDUCATION INNOVATOR,
CLARK COUNTY SCHOOL DISTRICT, NV
FINDING 1
Girls like STEM!
74% of teen girls are interested in STEM.

FINDING 2
The creative and problem solving aspects of STEM draws girls
87% of girls interested in STEM like to understand how things work.

FINDING 3
The DNA of a “STEM girl” sets her apart
92% of girls interested in STEM feel they are smart enough to have a career in STEM.
97% of girls interested in STEM agree that girls can do whatever boys can do.
In the report, only 53% of the girls interested in STEM know a woman in a STEM career.

FINDING 4
A gap exists between STEM interest and career choice
A high 81% of girls interested in STEM express interest in pursuing a career in a STEM field. However, only 13% say it is their first choice.
2/3rds of girls interested in STEM choose healthcare/medicine as their number one career choice (not engineering, computer science/technology, software development).

WHAT HOLDS GIRLS BACK
47% of girls say that they would feel uncomfortable being the only girl in a group or class.
Further, 57% of all girls say that if they went into a STEM career they would have to work harder than a man just to be taken seriously.

Women in STEM
Science, Technology, Engineering, & Mathematics

EVERFI
#GirlsinTech and #GirlsinSTEM

Our goal is to increase the number of female students pursuing non-traditional, STEM-related careers.

Last year, four events were held with over 600 middle school female students who were exposed to career exploration activities in STEM careers.
We are expanding our #GirlsinTech and #GirlsinSTEM events to further promote K-12 female students to pursue non-traditional, STEM-related careers and work towards the NCWIT’s Aspirations Award.
ZACH WAGNER
VICE PRESIDENT, CONTENT AND PLATFORM DEVELOPMENT, EVERFI
Key Insights

1. STEM interest at the start of High School is the greatest indicator of STEM pursuits post High School.

2. Students do not have a clear perception of what science has to offer them or what scientists do.

3. Attitudes and strategies developed for overcoming the barriers in STEM affect persistence in positive ways.

Sources:
Redefining Role Models and Scientific Milestones

Inspiration is quickly normalized. What inspired previous generations is not going to be what inspires the current one.

We have to find new milestones, metaphors, and role models.
Essential Qualities of STEM Instruction

To inspire and motivate students, Instructional design must focus on:

- **Agency**: Keeping the content in reach
- **Relevancy**: Connecting to the real world
- **Focus**: Centering lesson on the learner

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**EVERFI**
Increasing Engagement and Motivation

Digital Learning can help ensure agency, relatedness, and focus through:

- Multiple representations of real world problems
- Opportunities for customization and personalization
- Virtual interactions to model actual STEM skills and practices
PANEL DISCUSSION
Thank You

Steve Sandak
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