Global Challenges in K-12 STEM Implementation

Harvard Graduate School of Education

Robert J. Monson, Ph.D.
Teachers College, Columbia University

May 24, 2019
Our view of STEM...

• Where we began in the 1980’s = STEM

• Where we are headed = iSTEM

• Still to be resolved: Interdisciplinary
  Or
  Integrated
Global Challenges in Implementing STEM...

- **Influential factors at work:**
  - Cultural norms – especially gender norms
  - What should be learned (mix of knowledge & skills)
  - Pedagogical approaches:
    - *Constructivist* (problem-based learning; project-based learning; scientific method; design thinking); and/or
    - *Didactic* (lecture)
  - Accountability policy – “*What gets measured, gets done!*”
Global Challenges in Implementing STEM

Influential factors at work:

✓ Renewed emphasis on the “whole child” & “pastoral care”

✓ Career planning for students (“College & Career Readiness”)

✓ Teacher preparation (Competing demands for increased content knowledge and a broader range of teaching strategies)
I hear and I forget.

I see and I remember.

I do and I understand!

Confucius