Teach in Industry: Linking Business & Classroom
STEM Practices while Retaining
STEM Teachers

Bruce Johnson
STEM Teacher Retention

• Issue – qualified teachers in every classroom
  • Special Education, Math, Science
  • Many qualified, not enough teaching
  • Half leave the profession in their few years
  • Causes – pay, pressures
  • Rural schools -- isolation
STEM Teaching

• Issue – relationship to the real world
  • Many STEM teachers never worked in STEM
• Benefits:
  • “Street cred”
  • Relevance of classroom learning
  • Knowledge of STEM careers
  • STEM practices from business/industry
Teachers in Industry

• Created 7 years ago as a partnership between UA College of Education & Tucson-area businesses/industries
  • Originally only in Tucson-area
  • Expansion to Phoenix area
  • Expanding to rural areas of Arizona
• Partners: Southern Arizona Leadership Council; Tucson Values Teachers; UA Colleges of Education, Science & Engineering; UA STEM Learning Center
What is Teachers in Industry?

• Combination of paid summer work experience and coursework to assist in transfer back to the classroom

• Two options:
  • Master’s degree
  • Professional development
Master’s Degree Option

• Three year program
  • 3 consecutive summers of work
  • Summer courses
  • School-year courses
  • STEM project in the classroom – design, implement, evaluate, present to the community
Professional Development Option

- One to three years
  - Summer work
  - One course focused on transfer to the classroom
  - Many teachers stay in for 3 years; some do 1 year then apply to master’s option
How Are We Funded?

• Teachers hired by businesses – earn $5000-$12,000/summer
• Operations & part of tuition (65%) covered through grant funding
  • 1st 4 years: Science Foundation Arizona
  • Current (last 3 years): Freeport-McMoRan Copper & Gold Foundation (100Kin10)
  • Current (new): Thomas R. Brown Family Foundation
Results

• Over 90% of teachers still in the classroom
• Businesses: teachers valuable team members
• K-12 students:
  • Increased knowledge of STEM careers
  • Increased intent to pursue STEM careers
  • Saw more 21\textsuperscript{st} skills & business practices in their classrooms
• “Model” STEM program - Change the Equation
Rural Participation

• 8 rural teachers so far
  • Superior, Morenci, Snowflake, Eager, Holbrook, Wilcox
  • Freeport-McMoRan mines, TEP power plants, AZ Electric Co-Operative

• Now working with: Bullhead City, Yuma, Prescott, Page, Flagstaff, San Carlos for summer 2016
Find Out More

• Visit our web site: http://teachersinindustry.arizona.edu

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