OVERCOMING CHALLENGES AT TAFT STEM ELEMENTARY

& BRIEF UC|FUSION OVERVIEW

Drs. James Basham & Kelly Obarski, University of Cincinnati
UC|FUSION & Ohio STEM Learning Network
The mission of the UCIFUSION Center is to impact policy and improve educational practice in P-20 science, technology, engineering, and mathematics (STEM) for all students, through transformative innovation, outreach, and research.
UC|FUSION Services in K-12 Education

• State/District/Building Level Visioning & Consultation
• Strategic STEM Partnership Development
• STEM Education Professional Development
• STEM Curriculum Development & Instructional Design
• STEM Curriculum Research & Evaluation
• Collaboration in Grant Writing

*Some services are fee-based
Selected Projects

- Taft STEM Elementary School
- Hughes STEM High School
- SW Ohio STEM Hub of OSLN
- Digital Backpacks

- Multiple federally funded projects focus on:
  - Developing programs
  - Designing new technology
  - Preparing teachers
• Partnership of over 50 education, corporate, and industry organizations
• Urban, Rural, and Suburban focused on “STEM Education for All”
A Universal Design for Learning (UDL) based STEM School Taft STEM Elementary
The Taft STEM Backstory...

• Identified as a NCLB School of Redesign (Fall 2007)

• Cincinnati STEM Partnership secured \textit{K-8 STEM Program of Excellence} Funding (Spring 2008)

• Established a project team (Spring 2008)

• School reopened & “redesigned” (August 2008)
Some initial challenges...

- Infrastructure
- Politics and Policy
- Community
- Timeline
- Human
Our Vision... “STEM for ALL”

* Based on *Universal Design for Learning*

* Uses *Project/Problem-Based Learning*

* Embedded *21st Century Skills*

* Infrastructure to support instruction*

* Well prepared teachers*
Our Work: Summer 2007

- Hiring
- Professional Development
- Moving Out & Back In
- Infrastructure
- Technology
- Curriculum/PBL Development
- Community Building
- Partnership Development
Our Work: 2008-09 School Year

- On-going professional development
- Instructional Design
- On-site Support for:
  - Instructional design
  - Technology integration
  - Documenting practices
Our Work: 2009-Current

• Proactive planning through school learning teams
• Continue to build understanding....
  -- Topics of Interest:
    • STEM for All
    • UDL
    • Engineering is Elementary/STEM Curriculum
    • Project/Problem-Based Learning
    • Technology Integration
    • 21st Century Skills
• Continued documentation
• “Research” what works
Life at Taft STEM Elementary
A MOVIE CREATED BY TEACHERS DEPICTING THE SCHOOL.
“STEM FOR ALL”
Flagship 2: Hughes STEM High School
Some Initial Challenges

- Infrastructure
- Politics and Policy
- Community
- Timeline
- Human
Technology Overview

- Technology Integration
  - Blackboard
  - PBL
  - NSF –F-SET’s
  - Gaggle
  - Mac Labs
  - Laptop carts
  - Hybrid Courses

- Opportunities to push the district forward
- Partnerships
Lessons Learned

• Access to Instructional Tools has Never Been Greater...

• Understanding Access & Usability is Essential...

• An Educator as an Engineer...

• Moving Beyond Traditional IT...
Thinking About Your Challenges...

- What are your technology challenges?
- What are possible solutions to these challenges?
- Who might you partner with to help you with these solutions?
Contact Information

**UC|FUSION Center**
(513) 556-9135
Fax: (513) 556-1581
511 Teachers College
PO Box 210022
Cincinnati, OH 45221

Email Contacts:
[James.Basham@uc.edu](mailto:James.Basham@uc.edu) or [Kelly.Obarski@uc.edu](mailto:Kelly.Obarski@uc.edu)