The Promise of ITEC: Building Opportunity for K-12 students

Kirk Riley
Executive Director
Information Technology Empowerment Center

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ITEC Mission

• Provide high quality IT educational opportunity in Capital region
• Address critical shortage of IT workers in region
• Generate answers to questions about digital divide and lack of students entering technical careers
Objectives

• Engage youth in technology-based activities designed to enhance performance in science, technology, engineering, and mathematics (STEM)
• Enable Lansing area residents to acquire flexible, transferable technology skills that allow them to participate in a global economy.
ITEC Board and Partners

- Prima Civitas Foundation
- Michigan State University (computer science, telecommunications, education, outreach)
- Lansing Community College
- City of Lansing, Lansing School District
- Spartan Internet Corp., Dewpoint, Techsmith
National statistics

- Digital divide by ethnicity, race, gender
- Lack of enrollment in IT careers
- Digital divide no longer defined as lack of access but as lack of educational and employment opportunity
National statistics

- Declining enrollment in computer science at B.S. – Ph.D. levels
- Demand for skilled IT labor is very high (8.5% increase from 2006-2007)
Breaking down barriers to accessibility

- Income: Hope Scholars, i.e., qualify for federal lunch subsidy
- Ethnicity: targeting racial and ethnic minorities for classes
- Education: Hope Scholars not proxy! Much bigger challenge than income
- Age: Include families
- Gender: Camps, classes targeted at girls
What about the Lansing region?

• IT industry growing 7 times faster than rate for all jobs; IT industry provides 4,500 jobs locally
• More than 200 job openings as of December 31, 2008, in Lansing IT community
• Between 2000 and 2005, applications for computer science programs declined 20%.
• A shortage of IT workers threatens the future of the IT sector.
• A digital divide exists, limiting access to careers in science, engineering and math
A unique approach

Guided play and experiential learning
– Engages student interest
  • “Cool” technology
  • Real-world applications
Key instructional principles

• Attract students through hands-on activities that are experiential, hands-on and fun.
• The outcome is their discovery, not a foregone conclusion
• Should not be “school after school.”
Current projects at ITEC

- Robotics
- Digital media (video, music, documentaries, writing)
- Problem solving with MATLAB
- Visual, 3-D programming with Alice
- Programming with Scratch
ITEC Location

Former Holmes St. Elementary School

Future Home of Spartan Internet, ITEC and other technology ventures

1030 S. Holmes St.
Lansing, MI 48912
ITEC locations, curriculum

- Classes at Pattengill MS, Otto MS and Sexton HS
- Camps at Impression 5 Science Center, funded by TechSmith
- Tech camps at Impression 5 summer 2009, funded by TechSmith: Water Quality, Geocaching, Lego Robotics, programming
- Classes at Black Child and Family Institute and St. Stephens Church
- MSU faculty/students leading teaching (12 units)
- Volunteers from IT sector, State of Michigan, MSU IT faculty and staff – important mentor role
- Homework assistance center
Contact:

Kirk Riley, Executive Director
Information Technology Empowerment Center
1030 S. Holmes Street
Lansing, MI  48912
(517) 432-1451
kirk@iteclansing.org
www.iteclansing.org