Reflecting on Informal Teaching Methodologies and Innovative Uses of Technology

For this publication, the ITEST LRC interviewed project staff and participants from four ITEST projects: DesignIT Studio, Inquiry-Based Marine Biotechnology and Bioinformatics, MyBEST, and Ocean Explorers. We asked a series of questions about technology use and teaching methods in summer program activities in order to capture insights that can inform program design and practices in other ITEST projects and beyond. Links to the lessons learned and reflections by individual projects follow the summary of key strategies below.

Teaching about and with technology

Strategies and Lessons Learned

Across programs:

- Give participants immersive experience, including their own space and pace for learning
- Balance exploration and experimentation with more structured activities
- Involve field experts/advisors with fresh ideas and new technologies
- Have small groups, encourage collaboration, and build community

Unique to youth-based programs:

- Make content relevant to the young people's lives
- Plan opportunity for youth to present their work to the public
- Involve adult mentors for youth
- Increase parent involvement

Unique to comprehensive programs:

- Connect material meaningfully to classroom

- Offer some simple, smaller activities that teachers can do with their students
- Involve veteran teachers as mentors
- Align content with standards

Conversations with ITEST Projects

"The kids were building fluency; they were focused on the beautiful creations and didn't have lots of questions about how to use the technology. A couple of weeks were about animation—and the kids started to tell their own stories, rather than just doing the work." —Chip Lindsey, DesignIT Studio

"Guest presenters are a source of inspiration, expert mentors who help us think about how best to do our activities, and offer a career aspect—making certain passions more real."—Kristen Murray, MyBEST

"Our major goal was to give them the experience of what the scientific process was like. Our big challenge was that we didn't know their backgrounds. All had different strengths, and all had 'a-ha' moments. There was a really good mix of successes and failures. Next time, we'll have a more clear idea of what we need to know about their backgrounds." —Simona Bartl, Inquiry-Based Marine Biotechnology and Bioinformatics

"What's wonderful about this project is I've been able to identify 'master teachers' who have been able to do this kind of thing—they've shared with struggling teachers their techniques for breaking things down into class periods. Teachers really listen to other teachers..." —Steve Moore, Ocean Explorers

Editor's Note: The ITEST LRC produces various resources for individual ITEST projects and the wider community of STEM and IT educators. This publication was intended to capture strategies and lessons learned regarding informal teaching methodologies and innovative uses of technology. In the course of preparing this publication, I was interested to discover the extent to which the discussion of technology tools was intertwined within the context of how they were used for teaching and learning. I wanted to reinforce this fundamental point about integrating technology as a tool for learning, and also to thank the individuals whom I interviewed for sharing their many other insights and reflections. —Wendy Rivenburgh, team member of the ITEST LRC and Research Associate with the YouthLearn Initiative at EDC

Education, Employment, & Community Programs (EEC)
Education Development Center, Inc.
55 Chapel Street
Newton, MA 02458