

High Tech High Summer Institute 2009
DRAFT Session Descriptions, 6/5/09

Special Symposium: Transforming Schooling through Teacher Action Research

Stacey Caillier, Director, Teacher Leadership M.Ed. Program & graduate students from the HTH Graduate School of Education and other institutions

What puzzles, surprises, troubles, or intrigues you in your classroom or your school? How could you better understand what is really going on? And how could you use that knowledge to improve teaching and learning? In this interactive table-talk session, participants will circulate freely from table to table to learn how students from the HTH Graduate School of Education and other area institutions are pursuing research questions related to their own practice and settings. The presenters will discuss their research, how the research process has influenced their thinking and practice, and the challenges and benefits of being teacher-researchers. Research topics include:

- how students talk about race and ethnicity
 - effect of open-ended math problems
 - mixed and single-gender grouping
 - learning through internships
 - student voice and school culture
- ...and many more!

List of Workshops (see selected descriptions below)

- High Tech High 101: Origins, Design Principles, and Core Features
- Project-Based Learning 101: Integrating the Curriculum Through Projects
- PBL 201: Tools to Improve Your Projects (3D)
- African Bushmeat Project
- Backward Design and PBL
- Using the Internet to Manage Projects
- The (Hu)manifest Project: Anatomy of a Humanities and Math/Chem Self-Publishing Project
- Personalization: Students Don't Care How Much You Know Until They Know How Much You Care
- Alternative Assessments for Students with Learning Differences
- Bridging the Math Gap: Integrating Math in the PBL World
- Mathematics and Computer Science
- Implementing "Ron Berger" Critiques in Your Classroom
- Using Online Tools to Increase Classroom Collaboration
- Go Team! How to Build Your Interdisciplinary Team of Teachers and Students
- Schools as Sites of Adult Learning and Leadership: What, Why and How
- Collegial Coaching, Coaching Corners and Critical Friends
- Technology and Reflective Practice
- The Elephant in the Room: Dealing with Difficult Districts and Demanding Demographics
- Family History (an Oral History Project)
- Differentiation through Projects: the One Minute Movie
- Integration and Exhibition Night

- Encountering Complex Texts with Students
- New School Start-up
- Developing Your School's Yearly Reflection Plan
- Computing Across the Curriculum
- My Legacy, My Destiny: an Integrated 8th Grade Project

Selected Workshop Descriptions

High Tech High 101: Origins, Design Principles, and Core Features

Rob Riordan, HTH Learning

Tom Vander Ark, former Education Director of the Bill & Melinda Gates Foundation, has referenced the High Tech High design principles as the basic criteria for the Foundation's giving to high school reform efforts. What are these principles? Where do they come from? What are the likely core features of a school that adopts the HTH design principles? This session offers a primer on HTH for newcomers as well as those who wish to revisit the roots of HTH. We will trace the development of High Tech High from its beginnings in the San Diego business community and the New Urban High School project, emphasizing key features and lessons learned.

Project-Based Learning 101: Integrating the Curriculum Through Projects

Alfred Solis, Math/Physics, High Tech High

Workshop participants will learn the basics of project-based learning in a hands-on project planning activity. Topics will include developing and planning a project, engaging student interests, meeting content standards, building group skills, assessment, and project presentations.

PBL 201: Tools to Improve Your Projects (3D)

Alfred Solis, Math/Physics, High Tech High

Already have some experience with project-based learning? In this session, you learn to navigate through a Project Development Guide that highlights helpful tips and things to consider when planning the project. You will also see student work that exemplifies key project components.

African Bushmeat Project

Jay Vavra, Biology, High Tech High

Participants will learn of the adventures of Jay Vavra and a group of High Tech High students, who traveled to Tanzania to combat the African Bushmeat Crisis, the illegal trade of meat from protected species, usually disguised as meat from a lawful origin. Over the course of three years, students in Dr. Vavra's biotechnology course studied the bushmeat trade and conservation forensics. They developed and practiced ways of identifying species via DNA bar-coding, a technique they hope will aid scientists, environmental groups, and prosecutors in tracing illegal bushmeat back to its localized animal populations. While in Tanzania, the HTH team's focus shifted from animals to people; they filmed and interviewed tribesmen and park officials talking about their lives and how poaching affected them. They presented their work to scientists and began an exchange of ideas for combating the crisis and developing education programs in East

Africa and the United States. They returned home with hours of documentary footage and a greater understanding of wildlife conservation practices, the effects of illegal hunting on biodiversity, and the challenges being faced by those hoping to prosecute poachers.

Backward Design and PBL

Michelle Clark, HTH North County

Jenny Pieratt, HTH Flex

The workshop will take you through the project planning stages following the Backwards Design Method. We will provide an overview of the Backwards Design process and share ways to utilize the method when planning projects. This workshop will also include opportunity to use what you've learned. Resources will be provided and by the end of the workshop you will have planned an entire unit and/or project.

Using the Internet to Manage Projects

Don McKay, Math/Chemistry, HTH International

The Internet is changing before our eyes. Blogs, wikis, and social networks have extended the Internet with easy-to-use dynamic tools to share information and data, insights and opinions. This past year, we have used a free web site that builds web sites (wetpaint.com) as the central management vehicle for two 10th grade Chemistry projects. Our soap making project used the site to support six “companies”, each tasked with identifying a market, designing a campaign to reach that market, and manufacturing a soap product within specific budget and time constraints (www.drondonsoap.wetpaint.com). Our chemical kinetics project used the site to research, collaborate, and evaluate online tools to learn/teach the principles of chemical kinetics, culminating in a website of our own that teaches kinetics online (www.kinetics.wetpaint.com). In this seminar, you will learn how to create your own wetpaint site to facilitate the organization and management of a complex project. You will learn what works well and the pitfalls to avoid. Bring a project idea to the workshop that you would like to manage online and together we'll draft a site of your own and get you started inputting content. While the examples above are chemistry projects, project websites can be used in any discipline and for any student that is comfortable browsing the Internet.

The (Hu)manifest Project: Anatomy of a Humanities and Math/Chem Self-Publishing Project

Paul Lopez, Humanities, High Tech High

Anne Duffy, Math/Chemistry, High Tech High

This workshop will focus on a 10th grade project that integrated humanities and math/chem to produce beautifully rendered artifacts that were not only vehicles for self-expression, but also embedded core content throughout the duration of the project. Participants will become familiar with some of the chemistry behind making paint, as well as ways to incorporate and discuss geometry when creating an original piece of artwork. This workshop will also address various ways to self-publish poetry, essays, artwork, etc., using the chapbook format as a model. Finally, we will consider questions associated with publication, such as how can a small publication effort impact a community? When does art become political? And lastly, what makes a quality publication?

Personalization: Students Don't Care How Much You Know
Until They Know How Much You Care

Michelle Clark, Humanities, HTH North County

In my four years experience with High Tech High I must say that the design principle that I've had the most success with is personalization. The ability to truly know your students affords you with the capacity to reach them in a way that they never experienced and more importantly in a way that yields successful results. This workshop will explore the significance of personalization in academic and personal growth of students at all grade levels and in all subject areas. Successful strategies, activities and resources will be delivered in an engaging way during this interactive workshop. Participants in this workshop will also walk away with an understanding of personalization's positive impact on student achievement via teacher, student and parent testimonials. Time will be allotted for questions and collegial sharing!!!

Alternative Assessments for Students with Learning Differences

Sarah Barnes, Learning Specialist, High Tech Middle Media Arts

This workshop will discuss alternative means of assessment for students with learning differences in a fully included general education environment. Topics will include:

- Introduction to alternative assessment in special education and why these assessments are the key to inclusion in general education environments
- Examples of alternative assessments with spotlight student interviews and examples
- Handout/Discussion/Questions- a handout with resources and steps for creating non-traditional and alternative assessments for students with learning differences
- Simulation- a simulation of an easy non-traditional assessment for students with moderate to severe disabilities that can be applied to the general education setting

Bridging the Math Gap: Integrating Math in the PBL World

Cara Hetrick, Science/Math, High Tech Middle Media Arts

As exciting and powerful project-based learning can be for students, it can offer dilemmas for teachers incorporating math into the curriculum. Join us for a practical approach to creating projects from the mathematics perspective and learn varied approaches to making math skill development an integral part of your student's learning. We'll discuss and share philosophies on PBL mathematics teaching while giving you real world examples and fun projects that put your mathematics curriculum at the center of your projects. There are no easy solutions only multiple strategies.

Mathematics and Computer Science

Phil Wagner, Math/Physics, HTH Chula Vista

In this interactive workshop, teachers will learn how to use the Python programming language to create opportunities for their students to learn and apply math through computer science. By creating simple algorithms, abstract concepts such a derivatives, projectile/non-linear motion, number theory, and graphing in two or three dimensions can

become fun and deeply understood. Python is the language of choice for many organizations such as NASA, Google, Lucasfilm, and many more.

Implementing “Ron Berger” Critiques in Your Classroom

Tom Fehrenbacher, Humanities, High Tech High

High Tech High has been much taken with the work of master teacher Ron Berger, author of *An Ethic of Excellence*. In particular, HTH faculty have worked to adopt Mr. Berger’s approach to using multiple revision and classroom critique as a way of foster excellent—even beautiful—work. Tom Fehrenbacher, a central figure in these efforts, will describe both the approach and its application at HTH.

Using Online Tools to Increase Classroom Collaboration

Brian Dixon, Director, HTH Flex

Marsha M. Myles, President and CEO, EdTech Specialists, LLC

In this hands-on workshop, we will share examples of the best online tools to help increase collaboration, peer review, and feedback on your classroom practice. These tools can enhance the classroom-based environment and be used to facilitate online learning and hybrid/blended course delivery. This workshop will be a show and tell, so come prepared to share your experience with online collaborative technology including Google Apps, Ning, Facebook, and Skype.

Go Team! How to Build Your Interdisciplinary Team of Teachers and Students

Jaimee Rojas, Humanities, HTH North County

Joe Acker, Math/Physics, HTH North County

This interactive session will include a student panel to talk about specific structures and practices that made our team culture (our partnership and our class culture) work.

Schools as Sites of Adult Learning and Leadership: What, Why and How

Stacey Caillier and Rob Riordan, HTH GSE

Faculty from the High Tech High Graduate School of Education will describe the history and rationale for opening the nation’s first graduate school within a K-12 environment. Presenters will also discuss the HTH GSE’s unique approach to adult learning and mentoring within clinical K-12 settings, the design principles that guide both our K-12 schools and our graduate programs, and the importance of engaging teachers in action research projects geared toward the improvement of their practice and their schools. The conversation will be geared toward how participants can apply these elements in their own schools to encourage teacher leadership and improve teacher retention.

Collegial Coaching, Coaching Corners and Critical Friends

Tom Fehrenbacher, Humanities, High Tech High

Involve colleagues in improvement of their own classroom practices, curriculum development, advisory issues and more. Experience the *Collegial Coaching* protocol used at High Tech High to facilitate cycles of pre-observation meetings, observations, and the post-observation reflective conversations. Learn how *Coaching Corners* can

address the “implementation dip” bringing about innovative classroom strategies. Apply the *Critical Friends* protocol to teaching teams to critic the implementation of project-driven curriculum. Your own site-specific questions and implementation issues will be addressed.

Technology and Reflective Practice

Brian Dixon, Director, HTH Flex

This interactive workshop will introduce several technologies that help facilitate reflection as a key component of teacher development. Using examples from High Tech High and schools across the world, this workshop will inspire practitioners to expand the role of reflection in daily educational practice. Technologies introduced include YouMail, K7.net, YouTube, and Wordpress.

The Elephant in the Room: Dealing with Difficult Districts and Demanding Demographics

Tom Fehrenbacher, HTH and Rob Riordan, HTH GSE

In this roundtable discussion we will discuss ways that district schools can be innovative even when their districts are not, possible solutions to seemingly intractable demands, the power of stretching definitions, applying for exemptions, enlisting community support, and developing the capacity for site-based decision making. We will also consider adaptations of the HTH model for different student populations.

Family History (an Oral History Project)

Julio Delgado, Spanish, High Tech High

In this hands-on workshop, High Tech High students will present stories based on their family histories. Participants will then experience the process of writing a short story based in their own family histories. They will translate some of their stories into Spanish and share these with the group. The session will conclude with reflections on what students can learn through this project, about themselves, about their peers, and about history.

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- Integration and Exhibition Night
- Encountering Complex Texts with Students

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