

Deeper Learning

20
15

Wednesday, April 1 through Friday, April 3



High Tech High, 2861 Womble Road, San Diego, CA

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Attendee Support Desk

Lose something? Need help with the local area? Need a pen? Feeling sick? DL2015 staff will be present at the registration table at HTM throughout the conference to ensure each of you have a great event. We will do our best to help you!

Local Addresses

The Gary and Jerri-Ann Jacobs High Tech High (HTH)
2861 Womble Road

High Tech Middle (HTM)
2359 Truxtun Road

High Tech High International (HTHI)
2855 Farragut Road

Stone Brewing World Bistro and Gardens
2816 Historic Decatur Rd #116

Courtyard Marriott
2592 Laning Road

Homewood Suites
2576 Laning Road

Holiday Inn
4875 N. Harbor Drive

Name Badges

Please wear your badges throughout the event. Your badge helps us get to know you and helps you get to know others. Badges may be recycled at the registration table at the conclusion of our event.

Presentations and Handouts

To save trees, workshop and deep dive materials will be made available online on the conference website:
www.deeper-learning.org/dl2015

Deeper Learning 2015 April 1-3, 2015

Social Media

Connect with the Deeper Learning community and your fellow attendees!



Use the hashtag **#deeperlearning** when tweeting about the event.



If you have a gmail account, share your thinking on the Google+ community at: **Deeper Learning**.



If you are forever on Facebook, share your learning on the **High Tech High Graduate School of Education** page!

Video and Photos

Don't be surprised if a film crew takes a photo or video of you. We like to document our events so we can show others what we do here at DL2015. Please note we may use your image or video in publications that promote the deeper learning conference.

Wireless Network Information

Wireless Network Name: **Deeper Learning**

Network Key: **deeper15**

Deeper Learning is generously supported by



Our guiding questions

- Q1 How can we engage students in deeper learning experiences?
- Q2 How can we support educators in designing deeper learning experiences?
- Q3 How can we cultivate leaders who facilitate deeper learning in schools?
- Q4 What role do academic mindsets and student agency play in supporting deeper learning?
- Q5 How do we encourage more schools to embrace deeper learning?

Learning goals

Connect - I have made several new connections and have deepened my relationship with several old connections.

Innovate - I have new ideas for how to better support deeper learning in my organization, school, or classroom.

Experience - I will experience deeper learning for myself, which will help me to apply deeper learning principles to my own work.

Norms

Be hard on the content; soft on the people

Step up; step back (i.e. Share the air)

Follow the protocols; it helps others when they are taking a risk

Special Events

NEW THIS YEAR

THE DEEP DIVE DEN Drop-in anytime!

Part maker-space, part lounge, the Deep Dive Den (D³) invites you to connect with educational leaders, create a project, learn a new skill or build your own deeper learning conference swag. Located adjacent to HTM, the den will feature scheduled, **informal talks with educational leaders**, an **anytime makers space** to create lasting projects and a **series of maker sessions** that will help you make, build and learn. Create mousetrap cars, experiment with simple machines, build magnetic motors, design a Maker Me Puppet and much more. The den will also feature the DL Bookstore so you can catch up on the latest in deeper learning publications! Spend the day or spend 30 minutes!

Seating is limited for scheduled talks and maker sessions. Check out the D³ schedule on page 30.

LOOKING AT STUDENT WORK on Wednesday morning

Using a structured protocol, we will dig deep into student work that reflects key characteristics of deeper learning. We will also experience a collaborative process that any school can use to build a culture of deeper learning for students and adults.

DEEP DIVE EXPERIENCE & EXHIBITION on Thursday

The goal of Deep Dives is to fully immerse ourselves in an interactive, collaborative experience that reflects and models deeper learning strategies. Participants will create artifacts that demonstrate their key learnings and share these in a Deep Dive Exhibition at the end of the day. When visiting other exhibitions, we encourage you to engage with the presenters by asking questions such as:

What worked for you as a learner in this session? What was challenging?

What are your major take-aways from today's experience?

How might this experience impact your practice? What will you try in your own school?

How did you develop this product? What new insights emerged from its creation?

If your Deep Dive is in HTM, you will be exhibiting from 4:00-4:30 pm.
If your Deep Dive is in HTH, you will be exhibiting from 4:30-5:00 pm.

THE UNCONFERENCE on Friday morning

An unconference is a participant-driven meeting where attendees propose topics they would like to discuss with others. Throughout the event, if you want to initiate a discussion on a topic, simply write your idea on the **Unconference Idea wall** in HTM (next to the registration table). DL2015 staff will synthesize the ideas and share the Unconference topics and room locations by Friday morning.

An Unconference follows a few guidelines:

Whoever comes is the right people

Whatever happens is the only thing that could've

The Rule of Two Feet (go where you want to go)

The roles at an Unconference are few. There is a Convener (someone to get the conversation going), a Scribe (someone to record thoughts of the group) and participants. If a scribe decides to move to another session, he or she should designate a successor.

We've found that the Unconference format spurs fresh ideas, taps into people's diverse perspectives and collective problem-solving skills, and allows people to connect around similar passions, change ideas and next steps.



Tuesday March 31, 2015

- 6:00-8:00 pm** Deeper Learning Meet-up
Meet and connect informally with other DL2015 attendees in the bar area of the Courtyard Marriott.

Wednesday April 1, 2015

- 8:00 am** Breakfast/Registration (HTM)
9:00 am Welcome from Hewlett, Raikes & DL Team (HTHI)
9:30 am Opening Keynote with Chris Emdin (HTHI)
10:30 am Transition
10:50 am Looking at Student Work (HTH & HTM)
12:00 pm Lunch (HTM)
1:00 pm Workshop Round 1 (HTH & HTM)
2:30 pm Transition
3:00 pm Workshop Round 2 (HTH & HTM)
5:00 pm Reception at Courtyard Marriott (gratis)
6:00 pm Dinner at Courtyard Marriott (gratis)
7:00 pm *Most Likely to Succeed* Screening at Courtyard Marriott

Thursday April 2, 2015

- 6:00-7:00 am** Get Moving Mornings *optional*
B2: Bike the Bay Bring your rented bike and cruise the local area. Meet in front of HTHI.
R3: Running with Rob & Friends. Rob Riordan and others will greet all runners and walkers. Groups will organize based on desired distance and speeds. Meet in the Courtyard Marriott lobby.
Y4: Yo, Yo, Yo! It's Yoga. Go deep within yourself and start the day with a hatha style yoga session. Meet on the lawn outside the pool area of the Courtyard Marriott.
- 8:00 am** Breakfast (HTM)
9:00 am Keynote with Luis Del Rosario, Big Picture Learning Student (HTHI)
10:00 am Intro to the Deep Dive Experience (HTHI)
(see page 24 in the program)
10:15 am Transition
10:30 am Deep Dive Experience (HTH & HTM)

Thursday April 2, 2015 *continued*

- 12:00 pm Lunch
- 1:00 pm Deep Dive Experience continued...
- 4:00 pm Deep Dive Exhibition (HTH & HTM)
- 5:00 pm Travel to Reception
- 5:30 pm Reception at Stone Brewery World Bistro and Gardens (*gratis*)
- 6:30 pm Dinner at Stone (*gratis*)

Friday, April 3, 2015

6:00-7:00 am Get Moving Mornings *optional*

B2: Bike the Bay Bring your rented bike and cruise the local area. Meet in front of HTHI.

R3: Running with Rob & Friends. Rob Riordan and others will greet all runners and walkers. Groups will organize based on desired distance and speeds. Meet in the Courtyard Marriott lobby.

Y4: Yo, Yo, Yo! It's Yoga. Go deep within yourself and start the day with a hatha style yoga session. Meet on the lawn outside the pool area of the Courtyard Marriott.

8:00 am Breakfast (HTM)

9:00 am Unconference (HTH & HTM)

10:30 am Transition

10:45 am Closing Keynote with Camille Farrington (HTHI)

11:45 am Moving Our Work Forward (HTHI)

12:00 pm Lunch & Farewell (HTM)

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Christopher Emdin

Wednesday April 1



Christopher Emdin is an Associate Professor in the Department of Mathematics, Science and Technology at Teachers College, Columbia University, where he serves as Director of Science Education at the Center for Health Equity and Urban Science Education. He is also the Associate Director of the Institute for Urban and Minority Education at Teachers College, Columbia University and an alumni fellow at the Hutchins Center at Harvard University. Dr. Emdin has also been recently named Minorities in Energy Ambassador for the U.S. Department of Energy and the STEM Ambassador for the U.S. Department of State.

Dr. Emdin is a social critic, public intellectual and science advocate whose commentary on issues of race, culture, inequality and education have appeared in dozens of influential periodicals including the New York Times, Wall Street Journal, and Washington Post. He holds a Ph.D. in Urban Education with a concentration in Mathematics, Science, and Technology; Masters degrees in both Natural Sciences and Education Administration, and Bachelors degrees in Physical Anthropology, Biology, and Chemistry.

He is the creator of the #HipHopEd social media movement, and a much sought-after public speaker on a number of topics that include hip-hop education, STEM education, politics, race, class, diversity, and youth empowerment. He is also an advisor to numerous international organizations, school districts, and schools where he delivers speeches, and holds workshops/professional development sessions for students, teachers, policy makers, and other education stakeholders within the public and private sector.

Dr. Emdin writes the provocative "Emdin 5" series on a number of contemporary social issues for the Huffington Post. He is also author of the award winning book, *Urban Science Education for the Hip-hop Generation*.

Luis Del Rosario,
Big Picture Learning Student
Thursday April 2

The Big Picture Learning design is a dynamic approach to learning, doing, and thinking that has been changing the lives of students, educators, and entire communities since 1995. All of the components of the design are based on three foundational principles: first, that learning must be based on the interests and goals of each student; second, that a student's curriculum must be relevant to people and places that exist in the real world; and finally, that a student's abilities must be authentically measured by the quality of her or his work. In this keynote address Luis Del Rosario, a senior at Big Picture Learning, will share his perspective on learning.



Camille Farrington
Friday April 3

Camille A. Farrington is a Senior Research Associate at the University of Chicago Consortium on Chicago School Research (CCSR). Dr. Farrington's research focuses on policy and practice in urban high school reform, particularly classroom instruction and assessment, academic rigor, academic failure, and the role of noncognitive factors in academic performance.



In Dr. Farrington's new book, *Failing at School: Lessons for Redesigning Urban High Schools* (2014, Teachers College Press), she argues that 120-year-old structures, policies, and practices for teaching and evaluating students—structures that are at the heart of the American high school—were designed to ensure that only the top academic performers advance to graduation. Combining historical research with two present-day studies of failing students

and their teachers in three schools, the book documents how high schools systematically construct widespread student failure. *Failing at School* closes with practical recommendations for restructuring secondary education to serve goals of equity and excellence rather than selection and stratification.

Dr. Farrington is also the lead author of *Teaching Adolescents to Become Learners: The Role of Noncognitive Factors in Shaping School Performance* (2012), a comprehensive research review that illustrates how noncognitive factors interact with school and classroom contexts to affect students' academic achievement. She is Principal Investigator on two studies, the *Becoming Effective Learners Survey Development Project* and the *8/9 Teacher Network*, both focused on better understanding the relationship between teacher practice, student noncognitive factors, and school success. Throughout her work, Dr. Farrington draws on her fifteen years' experience as a public high school teacher and National Board Certified Teacher Mentor. Prior to joining UEL, she also served on the Educational Leadership and Policy Studies faculty at the University of Washington, College of Education for three years. Dr. Farrington received a B.A. from the University of California at Santa Cruz, teacher certification from Mills College, and a Ph.D. in Policy Studies in Urban Education from the University of Illinois at Chicago.



Looking at Student Work

Locations

Using a structured protocol, we will dig deep into different examples of student work that reflect key characteristics of deeper learning. We will also experience a collaborative process that any school can use to build a culture of deeper learning for students and adults.

Toy Story HTH #101, 102, 103, 104, 105

Biomimicry HTH #106, 107, 108, 109, 110

Beyond the Crossfire HTH #200, 401, 402, 500, 501

Psychology Through 104 Eyes HTH #502, 503
HTM #1, 2, 3

Immigrant or Refugee HTM #4, 5, 6, 7, 8

Unfamiliar Landscapes HTM #9, 10, 11, 12, 13



Deeper Learning 2015

WORKSHOPS

The event workshops address key questions related to deeper learning:

- Q1 How can we engage students in deeper learning experiences?
- Q2 How can we support educators in designing deeper learning experiences?
- Q3 How can we cultivate leaders who facilitate deeper learning in schools?
- Q4 What role do academic mindsets and student agency play in supporting deeper learning?
- Q5 How do we encourage more schools to embrace deeper learning?



Mini Deep Dives **Wednesday, 1:00 pm - 4:30 pm**

Note: These workshops are three hours long (workshop rounds 1 & 2), with a break in the middle. Attendees are encouraged to stay for the entire workshop.

HTM#1

Q1

Q2

Q3

Four Poems in Four Voices

Wendy Baxter & Eliza Bryant [Roberto Clemente High School](#)

Four Poems in Four Voices is a multicultural project that requires all learners within a group to participate and have equity of voice. Participants will experience this project as a learner, reading with understanding and fluency portions of text that they choose and categorizing sections in different ways. We will then discuss themes, tone, symbolism, author's choice, etc. When all of the group members understand the poem, they will receive a different color marker to create a common Mind Mirror poster that captures themes, symbols, and powerful words or phrases that represent their poem. They will also present their poem and their Mind Mirror to their peers, analyzing literary elements and answering questions from the audience along the way.

HTM#6

Q2

Living with Learners: Creating a Cadre of Teacher/Researchers

Josh Thompson [Texas A&M University-Commerce](#)

This three hour workshop examines the question "What happens when undergraduates, in their Senior Seminar, pose questions about teaching and learning in schools and classrooms?" Through the use of guided prompts, jigsaw examination of three texts, and detailed analysis of student work, workshop participants develop qualities of standards for deeper learning work - all within the process of exploring teacher action research with undergraduates.

HTH#400

Q2

Q5

Making Learning Visible

Richard Gaudio & Joshua Hill [Rocky View](#)

Blair Hatch [High Tech High](#)

In this workshop, participants will create a digital video learning story about their experience at the Deeper Learning Conference. Participants in this hands-on PBL experience will create a high-quality deliverable, learn the process of crafting a digital learning story, and most importantly, reflect on the power of making learning visible. Learning stories are an inspirational way to encourage students, parents, teachers, leaders and policy makers to embrace Deeper Learning.

Deeper Learning 2015

HTM#2

Q1

Q4

Our Puzzle of the Past: From Basement Boxes to Mixed Media Masterpiece

Ellen Wright & Vanessa Vanclief *The Bishop Strachan School*

In this workshop, learn how a middle school interdisciplinary project that integrates history and visual art curricula can exemplify educational standards while promoting student voice and choice and building community. Students use primary source family photographs, maps and documents, and conduct an oral history interview with a family member to create an original poem. Then, they incorporate the historical and poetic research into original mixed media printmaking images as their final product. This project motivates families to share personal history with young people in an authentic way using research and could be adapted to any level. During this three-hour workshop, participants will work through the entire student project in an abbreviated fashion. Participants will analyze primary documents, employ interview techniques, write poetry and make mono-prints. Participants are welcome [encouraged!] to bring their own family photos and family documents to use in the workshop.

HTM#5

Q1

Q2

Q5

Second Class: What “Improv” Can Teach Us about Deep Learning

Holly Woodson, Max Likin, & Isabelle Rio *University Prep*

While a few pioneering teachers have recognized the power of “improv” in the classroom to create a collaborative learning community and to foster student engagement, the principles of improvisation, which are directly applicable to deeper learning, have not yet been fully explored. In this workshop, we will explore the history of improvisation from the Ancients to Second City. We will analyze video samples of “improv” and work in small groups, playing improvisational games to gain insight into the spontaneous, relational creation of meaning that takes place in an improvisational environment. Together, we will identify principles of the improvisational educational approach, finding along the way examples of how to incorporate these principles into teaching. Finally, we will collaborate to draft a working definition of “improvisational educational practices” with a focus on deeper learning.

HTH#BIO Q1 Q2

Take Deeper Learning Outside on a Science Investigation!

Sarah Kirn Gulf of Maine Research Institute

Sandra Lebron San Diego Coastkeeper

In this workshop we will explore Deeper Learning in science investigations. Specifically, we will use an existing citizen science program to engage ourselves in a deeper science learning experience, and use this as a model for how to use citizen science in our classrooms. By the end of this workshop participants will understand what “citizen science” programs are, how they can put together scientific investigations, and how to find opportunities nearby. They will also have firsthand experience doing a scientific investigation with deeper learning outcomes. Together we will generate a growing list of “citizen science hacks” to repurpose/leverage citizen science experiences to support growing mastery of core academic content (including language arts!), critical thinking, problem solving, collaboration, communication, and learning how scientists learn. Finally, participants will begin planning a deeper learning unit around a scientific investigation.



Workshop Round 1 Wednesday, 1:00 pm - 2:30 pm

HTM#4

Q1

Q2

Q4

ArtCore: Integration of Creative Disciplines to Go Deeper

Ross Anderson & Sarah Lench Educational Policy Improvement Center

ArtCore is a 4-year model development, research, and dissemination project designed and implemented collaboratively in five Oregon middle schools. The model aims to create a replicable school-wide transformation approach through technology-driven access for professional and personal growth. This workshop will focus in on the collaborative process of developing teaching and learning modules that integrate creative disciplines with academic domains centered on a 'big idea.' Experiencing this process will provide workshop participants with new strategies and ideas for their classrooms, schools, and communities and demonstrate how integration of creative arts can enhance deeper learning across academic domains and grade levels. Presenters will provide examples to demonstrate the next steps that lead from the 'big idea' to an integrative ArtCore teaching and learning module, and how this model builds incrementally from classroom to whole-school transformation. Workshop participants will experience a simulated collaborative design process developed for the ArtCore model.

HTH#200

Q1

Q2

Q3

Confronting Challenges to Allow Student Voice and Choice in Personalized Project Based Learning

Kelli Thompson Kentucky Valley Educational Cooperative

Burak Yilmaz Harmony Public Schools

Jessica de Barros Puget Sound Educational Service District

Come to this session with the willingness to build a plan to overcome challenges that your school or district currently faces when designing personalized learning opportunities for students. Hear from three distinctly different Race to the Top school grantees that have created environments, strategies and policies that promote student voice and choice at the school, district and community levels. Examples of regional community problem solving, place based challenge activities, technology-infused deeper learning opportunities, student planning and project based learning will be shared.

HTH#110

Q3

Deeper Leading: Cultivating Leaders who Facilitate Deeper Learning

Leigh Fitzgerald *Hawaii Technology Academy*

As we encourage our teachers to inspire deeper learning practices in our students, what are we as leaders doing to inspire deeper leadership in our teachers and in one another? This interactive workshop encourages participants to consider their own leadership styles and systems as they relate to deeper, personalized leadership. The learning objectives for this workshop include reflection on your current school culture; identifying obstacles and opportunities for your role as a deeper learning coach; creating a game plan of 1-2 personal and professional deeper leadership goals intended to promote deeper leadership at your school; identifying an accountability partner among the participants; and collaborating together to identify available and needed resources as they relate to deeper leadership.

HTH#101

Q1

Q4

Developing Academic Mindsets Through Global Competence

Lisa Tyrrell *Asia Society*

Are you interested in helping students develop an Academic Mindset as they also develop the Global Competencies they need for success in our interconnected society? If so, this workshop is for you! After learning more about global competence and four key academic mindsets that are associated with increased perseverance, better academic behaviors, and higher grades, you will analyze a Senior Presentation of an International Studies Schools Network (ISSN) deeper learner. You will synthesize your learning by identifying strategies to incorporate global competence, academic mindsets and additional tenets of deeper learning into your current practice.

Deeper Learning 2015

HTH#502
Q1
Q2

Effective Teaching from a Student's Perspective

Elena Hoffman The Gary and Jerri-Ann Jacobs High Tech High

A deeper learning educational experience allows for substantial flexibility and independence for teachers and students alike. While the teacher is the ultimate decision maker, it is crucial that they are constantly aware of their students' opinions and interests, for learning is most effective when the student and teacher are working together. This workshop will allow participants to advance one step further in fostering a mutual understanding as they engage in a Socratic seminar led by an 11th grade student at High Tech High, as well as viewing a documentary she created in which she interviewed her own peers on how they felt they "learned best." Participants will leave this workshop with a better understanding of the questions "How do students learn most effectively?" and "How do students want to be taught?"

HTH#500
HTH#501
Q4
Q5

Getting Better at Getting Better: Using Improvement Science to Become a Better Teacher

Ann Szekely & Camille Farrington University of Chicago

Have you implemented changes to your school but are unsure if they are working? Want to use improvement science in your teaching practice but don't know where to start? Join us and learn about Improvement Science, how the 8/9 Teacher Network is using the PDSA cycle (Plan-Do-Study-Act) to improve mindsets in their classrooms, and begin using this model yourself to make change in your schools and classrooms.

HTH#102
Q4

Learning & Loving Math: Creating a Schoolwide Deeper Learning Math Culture

Jeff Heyck-Williams & Caroline Mwendwa-Baker

Two Rivers Public Charter School

Two Rivers Public Charter School in Washington, DC has developed a rich and vibrant culture of math through a multi-year effort to help all members of the community come to learn and love math. Through this session, we will provide you with an overview of how that shift has occurred. You will have the opportunity to explore how embracing a broader definition of mathematical proficiency that includes affective responses to math, conceptual understanding, and problem solving as well as fluency, can galvanize your school culture. You will see first hand how this work has changed the instruction of all of our staff, and go away with concrete ideas for leading this change at your school.

HTM#9

HTM#10

Q1

Q5

The 8 Secrets that Lead Students to Go Deeper

Kathleen Cushman *What Kids Can Do, Inc. (WKCD)*

Students and scientists agree on eight conditions that enable deeper learning. So how should that affect how we “do school”? Participants will select an entry point to deepen learning in their own contexts, consult with each other on its depth and viability, and create an action plan to take away.

HTM#11

Q2

Q3

Transformational Coaching for Deeper Learning

Adam Krusi-Thom *Aspire Public Schools*

How do you craft a coaching plan focused on building Deeper Learning competencies in both educators and students? Rooted in the confluence of theory and practice that undergird transformational school coaching, this workshop uses a sequence of protocols to challenge teacher leaders and coaches to redefine their coaching model and to focus teaching and learning on the specific competencies of Deeper Learning. Participants will grapple with school, teacher and student needs to craft a plan for coaching a teacher or leader they actually support through a student-centered coaching cycle. The plan will be based on school-wide goals and specifically focused on enhancing one or more student Deeper Learning competencies.

HTH#503

Q1

What do we mean when we talk about Student Voice?

Tobie Baker Wright *Jobs for the Future*

Student Voice is all the buzz, but what do we mean when we talk about student voice in our classrooms, in the curriculum, and in school leadership? Are we inviting student expression, engaging youth as partners, or following young people as leaders? Participants will explore a spectrum of student voice to develop a nuanced understanding of entry points for student voice in the educational setting and possibilities to expand student voice across the educational landscape. In this session, participants will discuss current research on using student voice, deepen their thinking on opportunities for student voice, and think through a current problem of practice with the consultancy of their Deeper Learning colleagues.



Workshop Round 2 Wednesday, 3:00 pm - 4:30 pm

HTM#7

Q2

Q3

Assessing the Quality of Classroom Mathematics

Assignments: How Well are We Really Fostering Deeper Learning?

Steve Leinwand American Institutes for Research

As part of a study conducted for the Hewlett Foundation, the American Institutes for Research found that students attending schools focused on deeper learning had better interpersonal, intrapersonal, and cognitive outcomes, as well as better graduation rates and early postsecondary outcomes, than similar students who attended typical high schools. However, the study also found that the classroom assignments students were given in mathematics and English language arts in these schools did not consistently reflect or support deeper learning. In this session, Steve Leinwand, who led the analysis of the mathematics assignments, will discuss how teachers and school leaders can collaboratively analyze and develop mathematics assignments as a way of fostering an increased focus on deeper learning.

HTM#10

Q2

Q3

Deeper Leading

Jim May New Tech Network

Kelly Wilson High Tech High

What skills does one need to lead in pursuit of deeper learning? This session focuses on supporting the development of school leaders and the critical skill domains necessary to lead in pursuit of deeper learning for students. We will explore existing frameworks for school leadership, discuss the ways in which these frameworks do or do not adequately capture the reality of schools organized around deeper learning, and explore emerging frameworks for leadership development from the Deeper Learning community of practice.

HTH#105

Q1

Feedback on Writing Assignments: Using Audio Comments to Develop a Growth Mindset

Anna Rickard Lincoln Park High School

Writing, with its constant drafts and revisions, inherently requires a growth mindset. But how do we inspire students to put forth effort through each step of the writing process? This workshop will provide you with hands-on training to implement audio feedback on student writing assignments using the voice memo application on your smartphone. More importantly,

Workshop Round 2 Wednesday, 3:00 pm - 4:30 pm

however, you will learn how to provide feedback that is carefully crafted to be accessible and encourage a growth mindset in your learners. Participants should bring their smartphone and headphones - and if you have some, student writing samples.

HTM#8

Q1

Q2

Heart and Soul: Dive Deep into the Waters of Human Connection

Michelle Sadrena Clark High Tech High North County

"Response-ABILITY: Empathy in Action", "IWitness: Art in the Face of Death", and "Tuesdays with Story" are three projects that allow human beings to serve as the primary text. Human connection is the seed that allows deeper learning to blossom to fruition. When humanity is at the heart of a lesson, project, or an entire curriculum, critical thinking and empathetic behavior are sure to be present. In this workshop, students will share three deeper learning experiences that resulted from human connection projects. Students will then facilitate a project design workshop that has human connection at its fundamental core. Participants are guaranteed to walk away with numerous project ideas that will unleash their power to foster deeper learning experiences!

HTM#9

Q4

Q5

Like Learning to Play Jazz: Developmental Progressions for Essential Skills and Dispositions

Sarah Lench, Linda Pittenger & Ross Anderson Educational Policy Improvement Center

Carmen Coleman Center for Innovation in Education

We've been working with a group of teacher-leaders from across the country to create developmental progressions for a set of skills and dispositions essential for postsecondary success: collaboration, creativity, communication, and self-directed learning. The progressions are based on a novice-to-expert model of skill development, which moves from rule-based, structured acquisition to intuitive, nuanced application to novel tasks in new contexts. In this workshop, participants will be introduced to clear and accessible definitions of skills and dispositions, an evidence-based model describing how they are developed into college and career-ready proficiencies, and tools to integrate them into instruction and assessment.

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HTM#4

Q2

Q3

Mindfulness for Effective School Leadership

Kirsten Olson *Old Sow Coaching and Consulting*

Valerie Brown *Lead Smart Coaching*

What is mindfulness? How do mindfulness practices support powerful, creative educational leadership? In this practice-oriented session, authors of the just-published *Mindful School Leader: Practices To Transform Your Leadership and School*—named one of the “Best Courage Book of 2014” by the Center for Courage and Renewal—describe the origins of this book, and offer some mindful leadership exercises they’ve developed working with their client-partners. The core of this session includes a breath and body awareness exercise, incorporating strategic, resilience-building pauses even during the busiest days, and an exploration of mindful listening and speaking skills. We aim to have participants emerge with a grounded understanding of what mindfulness is, while we also caution against ‘mindless mindfulness’ and resisting cultural pressure to make mindfulness the “the next big thing.” This session is ideal for you if you are interested in developing: increased ability to notice and slow down, or stop, automatic reactions; increased capacity to respond to complex, competing, and difficult situations; increased work-life integration and greater resilience. Come learn with us, and let us learn from you.

HTM#11

Q1

Q2

Teaching as Soul-Craft

Scott Martin *Odyssey Leadership Academy*

Education (from the Latin “ex ducere”) has always understood itself as that which “leads out of” and that which “brings forth”. In this workshop, educators will explore the foundational and fundamental experience of teaching beyond the Empiricist model of education (schooling as the sum of its parts). Instead, we will grapple with education as a process of poiesis—human making—using reflection, silence, introspection, and discussion as a means of facilitating praxis (i.e. philosophy in action) to think through what, in our practice, we should help lead students out of and what we should help bring forth.

HTH#501

Q1

Q5

The Student Bill of Rights

Zak Malamed Student Voice

Maya Ervin High Tech High

In many schools, students often go without having a voice resulting in an environment that may not be personalized or safe. Student Voice, a non-profit organization dedicated to ensuring a quality education for all, has created the Student Bill of Rights. The overall goal is to implement these rights into schools and create a safer classroom environment for all students. To create the most personalized bill of rights, high school and college students will come together at High Tech High before the Deeper Learning Conference to discuss these rights and how they would like to see them implemented in their schools. In this workshop, the feedback collected from the students will be presented and there will be an open Socratic seminar where teachers and administrators can share their opinions on the bill.

HTH#503

Q2

Q3

Working Deep in Advisory: Mindsets & Moves that Allow the Group to Become the Agent of Change

David Rothauser & Shannell George New Visions for Public Schools

Becoming an effective advisor and group leader is a highly individualized process. While we all come with the raw ingredients to help our groups become powerful agents of change, unlocking our leadership potential takes patience, practice, and the support of our colleagues. We will look at one component of a comprehensive student advisory program (ongoing training and support for adults), where the model itself becomes a social microcosm and holding environment that supports the development of advisors in addition to students. This experiential workshop is designed for those who: want to work on developing group leadership skills in advisory, classroom groups, or staff meetings; are interested in helping group members communicate effectively with one another; are interested in understanding and working with what gets in the way.



Deep Dive Experience Thursday, 10:30 am - 4:00 pm

HTM#3

A Leader's Guide to Deeper Learning & Equity

Javier Guzman *Big Picture Learning*

What does it mean to be a deeper learning leader committed to equity? Can deep learning exist without school leaders addressing systemic injustices in our society? How do we support teachers, reflect on our practices and create innovative schools that inspire teachers and students to engage in deeper learning and equity issues? This deep dive will focus on how we develop and support innovative leaders who are committed to equity for deeper learning schools. Using strategies from our national leadership work, participants will examine successful practices, practice leadership moves and develop a system for growing as innovative and courageous leaders who make deeper learning happen.

HTH#200

A Systems Thinking? The Key to Delivering Deeper Learning for All Students

Jude Garnier *New Tech Network*

How does a systemic approach help school teams deliver deeper learning for all students? In the day-to-day work of leading for deeper learning we can lose sight of the proverbial forest because of the trees that demand our attention. In this session you will have an opportunity to “try on” various systems lenses and tools New Tech Network utilizes with schools and districts to meet many common organizational challenges. This session is ideal for school, district and/or organizational teams.

HTM#5

HTM#6

Assessing Academic Mindsets & Designing School Experiences to Develop Student Agency

Camille Farrington, David Johnson and Jenny Nagaoka
University of Chicago

Plunge into non-cognitive assessments with University of Chicago researchers! Learn how to measure academic mindsets and learning strategies. Analyze student survey data to discover relationships among classroom conditions, teacher practices, and student agency. Explore theories about how student agency develops. Then use our new Planning Guide to assess your own school setting and design optimal developmental experiences for your students!

HTM#8

Building Schoolwide Performance Assessment Systems for Deeper Learning

Symon Hayes [Envision Schools](#)

We already know that deeper learning is important and we know that deeper learning is happening. As schools scale deeper learning a key question remains: How do we measure this deeper learning school-wide? In this workshop participants will draw upon the assessment systems from Envision, ConnectEd, Asia society, and New Tech Network to create a school-wide assessment system.

HTH#503

Creative Robotics

Daniel Wise [Tufts Center for Engineering Education and Outreach](#)

Robotics is rapidly entering the classroom, from Kindergarten to college, as a way to teach problem-solving and engineering. However, it often enters as robotic cars, favoring only some students' experiences and interests. How can we engage all students? In this Deep Dive, we will create unconventional LEGO robots. The open-ended problems will allow easy entry (if you have never built a robot before, you will have a great time) and a high ceiling (if you are an expert, you will be challenged). Along the way, we will look at engagement and motivation, alignment with standards, and other issues related to classrooms and schools..

HTH#500

Crossing the Digital Divide: Programming as a Tool for Deeper Learning

Scott Swaaley [High Tech High](#)

Have you heard of this thing called coding, but don't really know what it is? Are you an experienced programmer, but don't know how to introduce it in the classroom? In this Deep Dive we will learn how coding can be used to bring authentic inquiry into any discipline while also learning this 21st century skill. We will share scaffolding techniques, resources, and our passion for this liberating practice. And of course, we're going to do a lot of coding! No experience required.

Deeper Learning 2015

HTM#12

Deep Dive into Innovative School Design: Reimagining Schools for Tomorrow

David Stephen [New Vista Designs](#)

In this Deep Dive, participants will explore how schools can best approach the design of a new facility, or re-envision their existing classrooms and campuses to better support and encourage dynamic, forward-thinking, and inquiry-based teaching and learning. Sharing best-practice examples from a wide variety of public, charter and independent schools nationwide, including High Tech High, architect and educator David Stephen will guide participants through a step-by-step process of creating a “Design Guide” that includes the discussion and prioritization of desired Learning Goals, Design Patterns and Features, Key Spaces and Adjacencies, and Guiding Principles for Design. This hands-on session will culminate in the diagramming of new school designs that put your team’s design goals into practice! If desired, participants may bring along plans and diagrams of their existing schools to take a stab at the possible no-to-low cost reallocation and reimagining of space.

HTH#502

Digging Deep for the Gold Standard of Project Based Learning

Rody Boonchuoy and Gina Olabuenaga [Buck Institute for Education](#)

How can we, as storytellers, help teachers understand the gold standard of PBL and why they need it? Prepare to get your hands dirty as you collaborate in teams to produce a video or animation on a precious nugget of GSPBL. This treasured experience will also include project management and storytelling techniques that will be worth their weight in gold.

HTH#110

Deeper Learning: Engaging ALL Learners

Matt Simon [High Tech High Chula Vista](#)

Diana Velasquez & Diem Johnson [Road to Success Academy](#)

How can we design projects that engage “difficult-to-reach” students? In this Deep Dive we will take a field trip to a San Diego Court School to speak with incarcerated youth about their experiences in school: what excited them, what turned them off, etc. We will then discuss what we learned from these students, get a quick overview of Road to Success Academy’s thematic, interdisciplinary, project-based learning planning model, and then design the skeleton of a project that meets these students’ (or “difficult-to-reach” students’) socio-emotional needs while challenging them to deeply learn core academic content.

HTM#9

HTM#10

Hacking for school-wide change in Deeper Learning

Sally Madsen IDEO

Susie Wise Stanford d. school

Changes at the school level are often hard to “hack.” In this Deep Dive we’ll focus on designable levers for change—things like roles, spaces, events, and incentives. We’ll brainstorm based on big ideas from Deeper Learning schools, and work together to design hacks

HTM#11

Implementing Academic Mindsets: From Theory to Action

Anna Kavar & Rachel Beattie Carnegie Foundation

This deep dive will introduce participants to both student agency and improvement science. Participants will be introduced to a practical theory of how to support students to continue to put forth effort in the face of academic challenge (student agency). They will be provided with concrete practices and learn how to test these practices using improvement science. Participants will create a plan to test and adapt a strategy to work in their local context.

HTH#101

Mathematical Modeling: Unleashing the Power of Math on the Real World

Sarah Strong & Bryan Meyer High Tech High

HTH #101

Should airlines overbook? Can the crisis with social security be remedied? Can a coin dropped from the empire state building really kill someone? How much plastic is ending up in the landfills? Should I get a credit card?! In this session, participants will think and act like mathematicians as they use models to solve real-world problems and then create ways to exhibit their learning in an authentic and meaningful way.

Deeper Learning 2015

HTM#1

Pedaling Towards Sustainability: Using STEM to Increase Urban Transportation

Mark Hines Mid-Pacific Institute

In this deep dive, participants will explore the history and the mechanics of cycling and will consider its impacts on socioeconomics, the environment, our health, and how it compares to other modes of urban transportation. The emphasis of this dive will be on using cycling as a means to improve sustainability. We will share a model of a year-long investigation conducted by freshmen at Mid-Pacific Institute in Honolulu, that used STEM class to promote sustainable urban transportation by creating do-it-yourself electric bikes. During the dive, participants will break into teams to ride bikes to consider their mechanics, as well as their utility to get around in cities. Participants will then redesign an aspect of the bike experience with the goal of exhibiting improvements in design as an artifact of the dive's learning.

HTH#501

Planning for School Wide Deeper Learning

Monica Martinez Hewlett Foundation

Aaron Muarer Bettendorf Community School District

How can you transform your school for deeper learning? Participants will use specific exercises from the Planning Guide for Deeper Learning to develop a plan to transform their school for deeper learning. In the process they will learn about the core conditions that have to be put in place for schools to establish a foundation for Deeper Learning and assess the degree to which each condition currently exists within your own school. Come with a team if you can and be ready to create a schoolwide plan for deeper learning. The full Planning Guide is online at: www.dlplanningguide.com. Information on the book, *Deeper Learning: How Eight Innovative Public Schools are Transforming Education in the 21st century*, can be found at www.monicarmartinez.com or purchased from Amazon or Barnes and Noble.

HTH#BIO

Should You Buy Fish?

Libby Woodfin & Cheryl Dobberton Expeditionary Learning Schools

In this session you will put on your "student hat" to explore the issues involved in the decision to buy fish. You will get up-close and personal with one species of fish and research the issues involved with overfishing and sustainable fishing methods. You will then create a flyer guiding consumers

to make informed choices about that species, with a focus on persuasive evidence-based writing. You will also don your “teacher hat” to unpack the instructional moves that support student work of this nature—work that is complex, authentic, and high quality. In particular, we will focus on strategies for scaffolding close reading, reading for evidence, determining the quality of evidence, the use of models and peer critique, and the power of the read-think-talk-write cycle to help students produce high-quality writing.

HTH#400

The Deep-Dive Journal: How to Curate an Enduring Exhibition in Real Time

Randy Scherer High Tech High Media Arts

Participants will create and publish an original book documenting the Deep Dive experience and launch an e-bookstore...in only one day! Along the way, participants will experience the roles of a PBL classroom and practice important design skills vital to the curation of meaningful and lasting exhibitions of student work.

HTM#4

Implementing Deeper Learning in Your School – Action Planning for Working with Students, Teachers, and Administrators

Adrienne Dickinson, Tom Duenwald, Mary Takle & Katie Piper

Bellevue School District

How can teachers in public high schools effectively push their practice in deeper learning? Given how much of the public instructional day is governed by policies that the teacher doesn't create, how can you utilize the resources you have to create a culture of deeper learning in your sphere of influence? If you're already engaged in deeper learning, how can you proactively engage your colleagues to push practice for a larger team? Divers will identify constraints around making this shift and will collaboratively problem solve in three key areas: student engagement, colleague collaboration, and administrator support. In each area, we will bring expertise (including our students) to support divers in exploring how their classroom can become a studio for deeper learning in their school. Divers will have an opportunity to make choices throughout the session to target their own personal areas of need, collaborate and form the seeds of a network of support. Our school team brings expertise in Problem Based Learning, 1:1 technology integration, and STEM. We are a designated Washington School of Innovation, a Partnership for 21st Century Skills Exemplar School and a Microsoft Showcase School while still maintaining our place as a comprehensive, neighborhood high school and part of a public school district.

Deep Dive Den (D³) Drop in any time!

Featured Talks with Educational Leaders

Bios can be found on page 32

Wednesday, April 1

11:00 am - 12:00 pm	Barbara Chow and Larry Rosenstock
1:00 - 2:00 pm	Elliot Washer and Carlos Moreno
2:15 - 3:15 pm	Claire Sylvan and Gia Truong
3:30 - 4:30 pm	Ken Kay and Rick Lear

Friday, April 3

9:30 - 10:30 am	John Mergondoller and Lydia Dobyns
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Scheduled Maker Sessions

Descriptions can be found on page 36

Wednesday, April 1

- 10:30 am - 12:00 pm

3D Printing Playground
E-Textiles: Sew your circuit!
Scratch Programming
Rokenbok Engineering
- 12:00 - 1:00 pm

3D Printing Playground
E-Textiles: Sew your circuit!
Rokenbok Engineering
FIRST Robotics Exploration
Adventure Playground
- 1:00 - 4:00 pm

Laser Cutting
Screen Printing
Electronic Design with Vinyl Cutter
Rokenbok Catapults

Thursday, April 2

- 10:00 am - 12:00 pm

Cyanotype Photography
Toy Story
3D Printing Playground
Quilting for Math
- 12:00 - 1:00 pm

Toy Story
3D Printing Playground
Quilting for Math
-

1:00 - 3:30 pm

Pop Up Books
Photoshop Magazine Covers
3D Printing Playground

Friday, April 3

- 9:00 - 10:30 am

Laser Light Show
Screen Printing
Electronic Design with Vinyl Cutter
3D Printing Playground

Deep Dive Den Featured Educational Leaders

Barbara Chow is Program Director of Education with the William and Flora Hewlett Foundation. Prior to her work at the Hewlett Foundation, she served as Policy Director in the House Budget Committee, Executive Director of the National Geographic Education Foundation, and Vice President for Education and Children's Programs at National Geographic. From 1993 to 1997, she was Special Assistant to President Clinton for legislative affairs, and acted as White House liaison to Congress on economic, budget, and appropriation matters. From 1997 to 2001, she worked in the Office of Management and Budget, where she was the Program Associate Director for education, income maintenance, and labor, and the Deputy Director of the White House Domestic Policy Council. Earlier in her career she worked as a member of the staff of the U.S. Senate Budget Committee, and as a manager of federal budget policy at Price Waterhouse. She received a master's in public policy from the University of California, Berkeley.



Lydia Dobyns's work in education follows an extensive career as a technology entrepreneur and executive. Prior to becoming President and CEO of New Tech Network, she served two terms as an elected school board member, led an education foundation and directed replication strategies in the non-profit sector. Lydia believes that deep down we each yearn for ways to become visible, to feel worthy and to feel capable of doing more than we know how to do today. She is privileged to work with an extraordinary team of education innovators transforming schools around the country. She graduated with a B.A. in English from the University of California, Berkeley.



Ken Kay is the Chief Executive Officer of EdLeader21, a professional learning community for education leaders committed to 21st century education. He co-founded the Partnership for 21st Century Skills in 2002 and served as its President for 8 years. Along with Valerie Greenhill, he has authored "The Leader's Guide to 21st Century Education: 7 Steps for Schools and Districts". He currently serves on the board of Buck Institute for Education (www.bie.org). Ken is a graduate of Oberlin College and the University of Denver College of Law.



Deep Dive Den: Featured Educational Leaders

Rick Lear is the Interim Executive Director of Envision Learning Partners, joining us after four years as a Senior Director at New Tech Network, one of our Deeper Learning partner organizations. Beginning his 48th year as an educator, Rick has been an English teacher, football coach, alternative school director, and founding



principal of two high schools. He has also worked at the Coalition of Essential Schools, the Small Schools Project, and CES Northwest. In those organizations, Rick has worked with hundreds of schools across the nation on high school redesign, primarily assisting others to create small, highly personalized schools that focus on excellence and equity. He has worked extensively with district leaders as well, helping to ensure that district focus and operations are aligned to support the work of redesigned high schools. Rick is a three-time graduate of The Ohio State University, including a Ph.D. in Humanities Education, but became a Washington Huskies fan during his dozen years living in Seattle.

John Mergendoller joined the Buck Institute for Education in 1989 as its founding Research Director and was named Executive Director in 2000. An international advocate for Project Based Learning, he has worked with educators throughout the US and in China, Taiwan, Brazil, Greece, Romania, the UK, and many other countries to help them learn about and implement high quality PBL. John holds an MA and a PhD in Psychology and Education from the University of Michigan, an EdM from the Harvard Graduate School of Education, and a BA in Letters from Wesleyan University in Middletown, CT.



Carlos R. Moreno is the National Director for Big Picture Learning. In this role, Carlos oversees BPL's 52 schools across the country as well as multiple district-wide innovative initiatives for the organization. Carlos spent several years working in the corporate and non-profit sectors before deciding to bring his passion for



helping youth to the forefront and entered the classroom as an educator. Carlos joined the internationally recognized Met School in 2002. In 2006, after successfully graduating his cohort of students and receiving his Master's Degree in Educational Leadership, Moreno was promoted to principal of The Met. In 2008, his leadership as an administrator led The Met to promote Carlos to the newly created position of Director of Principal Support & Development. In that role, Carlos coached, supported and evaluated the leaders of the seven Met schools in Rhode Island. In 2010, Carlos decided to move closer to his family and his hometown when he accepted a position with Big Picture Learning as the Director of School Reform &

Deeper Learning 2015

Innovation – New Jersey. While working in the Garden State, Carlos directed Big Picture Learning's Newark based schools and helped grow the New Jersey and New York City network where the organization now works with over 25 schools. Carlos is 6'8" and has a mean post-game (basketball)!

Larry Rosenstock is CEO of High Tech High, a network of thirteen K-12 public charter schools in California, and is Dean of the High Tech High Graduate School of Education. Larry taught carpentry in urban schools, served as an attorney at the Harvard Center for Law and Education, directed the federal New Urban High School Project, and has been a lecturer at the Harvard Graduate School of Education and at UC Berkeley.



Claire E. Sylvan is the founding Executive Director of Internationals Network for Public Schools. A nationally recognized expert and practitioner in both school reform and the education of immigrant and English language learners, Claire is passionate about providing all students but particularly immigrant students, with personalized and cutting edge deeper learning opportunities. Prior to founding Internationals Network for Public Schools, Claire worked in diverse roles and settings spanning public secondary education, teacher education and community/workplace organizing. Claire has developed innovative programs and practices for diverse populations of new learners of English in various New York City public schools, led the Internationals Schools Partnership (the early network of International High Schools) and piloted the groundbreaking Early College Program at International High School at LaGuardia. She has also researched and published articles documenting the cross-section of educational reform and language development programs for immigrants and their children. Claire attended McGill University and Brooklyn College as an undergraduate and received masters and doctoral degrees from Teachers College, Columbia University.



Gia Truong is Envision Education's CEO & Superintendent. Her career in education spans 20 years and includes a series of classroom and administrative positions in Seattle, San Francisco and Oakland, in both school districts and charter organizations. Envision Education is a CMO with three Bay Area high schools, as well as a training and consulting division that helps other schools and districts transform their schools to ensure college success for all. Gia is well respected for her leadership and accomplishments and for her ability to engage, support, and lead a vision of educational equity and excellence for all.



Elliot Washor, Ed.D. is the co-director of Big Picture Learning. He is also the co-founder of The Met Center in Providence, RI. Elliot has been involved in school reform for more than 38 years as a teacher, principal, administrator, superintendent, video producer, writer and speaker. His work has spanned across school design, learning environments, and authentic assessment. He is supporting others doing similar work throughout the world. Elliot’s interests lie in the field of how schools can connect with communities to understand tacit and disciplinary learning both in and outside of school. His professional development programs won an “Innovations in State and Local Government Award” from the Ford Foundation and the Kennedy School of Government at Harvard University. He has been selected as one of the Daring Dozen–The Twelve Most Daring Educators by the George Lucas Education Foundation. His latest book co-written with Charles Mojkowski is *Leaving To Learn: How to increase student engagement and reduce the dropout rate*. You can e-mail Elliot at ewashor@gmail.com



Deep Dive Den Maker Session Project Descriptions

3D Printing Playground with Jerry Grauman

Take some of the mystery out of the current hype about 3D Printing and find out what, how, and why people are using 3D printers. In this session, you will create a rapid prototype using part files and send them to a Robo3D printer for a hands-on experience.

Adventure Playground with Briony Chown and her 4th grade students
Build, create and test your designs in this adventure playground run by fourth grade students. Stop by to play, build a fort or to talk to fourth grade students about how they are conducting action research into adventure play, transforming recess and creating a culture of creativity, collaboration and engineering. Sticks, boxes, palm fronds and much more await you.

Cyanotyping! with Dr.Don

Cyanotypes use a dye called Prussian blue and were an early form of photography. As it happens, the chemical reaction that produces Prussian blue requires light. If a solution of iron cyanide and iron citrate salts is exposed to light, some of the iron ions will be oxidized (lose their electrons) and form the Prussian blue complex. While the non-oxidized greenish form is soluble, the oxidized blue complex is extremely insoluble and stains anything it is in contact with deep blue. If you place a leaf or some other opaque object on paper treated with the non-oxidized solution and then expose the paper to sunlight, Prussian blue will form wherever the light hits the paper. The chemicals in the shaded regions however don't react and can be rinsed off with water once the exposure is complete. The result is a beautiful blue and white shadow print of the object placed on the paper.

Electronic Design with Vinyl Cut Copper with Caroline McEnnis (TIES)

Come by to create, construct, and electrify a vinyl cut copper circuit with FabEd. Learn about the deep curricular connections you can make with this simple but empowering activity, and about other strategies for integrating digital design and fabrication into classroom practice. FabEd—a global educational outreach project anchored by digital fabrication and the Fab Lab network— is a

Deep Dive Den: Maker Session Project Descriptions

collaboration between the Teaching Institute for Excellence in STEM (TIES) and the Fab Foundation. FabEd TIES and the Fab Foundation are responding to the growing needs of educational institutions across the globe for innovative and engaging learning space.

E-Textiles: Sew Your Circuit! with Charlie Linnik

E-Textiles is all about incorporating electronic components into cloth and fabrics. For this workshop you will play around with amazing electronic components that are creatively designed to work with sewing. You will work with a device called a LilyPad (developed by SparkFun) which allows a Maker to connect a battery/switch device to a specialized stainless-steel conductive thread to complete a circuit. Come stitch away!

FIRST Robotics Exploration with FIRST students

Participants will explore the 4 different levels of the FIRST robotics program, which span from kindergarten to 12th grade, and learn how they can be used to inspire an appreciation around STEM with their students. Students from High Tech High's FIRST Robotics team will be sharing their robot and various components they have designed and built, as well as sharing how FIRST has impacted them. Participants will have the opportunity to do some basic programming using LEGO Mindstorm robots, which are used in FIRST LEGO League, a 3rd through 8th grade competition.

Laser Cutting Simple Machine Parts with Kyle Linnik

A laser cutter uses a high energy focused laser beam controlled by a computer to vaporize a variety of materials. Cool Right?! Although they may seem complicated at first, in practice it is fairly easy to start making your first cuts. In this session I will share all the resources and information needed to begin working with a laser cutter. We will learn about the parts of the machine, designing with Adobe Illustrator, preparing the materials and operating the laser cutter.

Deeper Learning 2015

Laser Light Show with Reuben Float

Through constructive use of the design process, students will design, build, and (potentially) sell a chandelier of their own design. Using corded light sockets and light bulbs sold at IKEA, participants will make a shade to disperse, beautify and enhance the light source. The final shade will be made of a paper-backed wood veneer and cut out using the technology available at High Tech Middle Media Arts. These chandeliers will then be on display during Presentations of Learning at HTMMA and sold on Etsy.com during the spring semester.

Photoshop Magazine Covers with Mike Vasquez

To share with your "classmates" more about what makes you so special, you will be creating a photoshop art piece in the form of a magazine cover. And this magazine is all about you. You will learn the basics of working in photoshop, as well as the essential skills required to professionally remove backgrounds from images. You will also learn the elements of design and work to define what makes an effective magazine cover (i.e. one that jumps off the newsstand, and that everyone wants to buy).

Pop Up Books: Once Upon A Prime with Mele Sato

Participants will create a short book utilizing pop-ups to capture a moment in mathematics history. This session will provide everyone with the materials and know-how to create three-dimensional art books. We will discover how to create layer folds, open mouth folds and angle movement folds.

Quilting for Math Skills with Tracy Nathan

Create a quilt square for a group quilt. Learn how to use quilting to support skills in the math classroom. Specific math skills include measurement with fractions, adding fractions, and subtracting fractions. No sewing experience necessary.

Deep Dive Den: Maker Session Project Descriptions

Rokenbok Catapults with Paul Eichen

Kid*Spark is a nonprofit corporation dedicated to the belief that all children should discover they are designers and makers who can shape their own worlds. Come experience the STEM-Maker learning journey! STEM-Maker applied learning experiences scaffold K-12 students through progressive stages of increasing capability and confidence. We will be exhibiting a variety of activities for various grade levels, and offering a hands on experience with a STEM-Maker activity. You can build and take home your very own Rokenbok catapult!

Scratch Programming & Design Studio with Zoë Randall

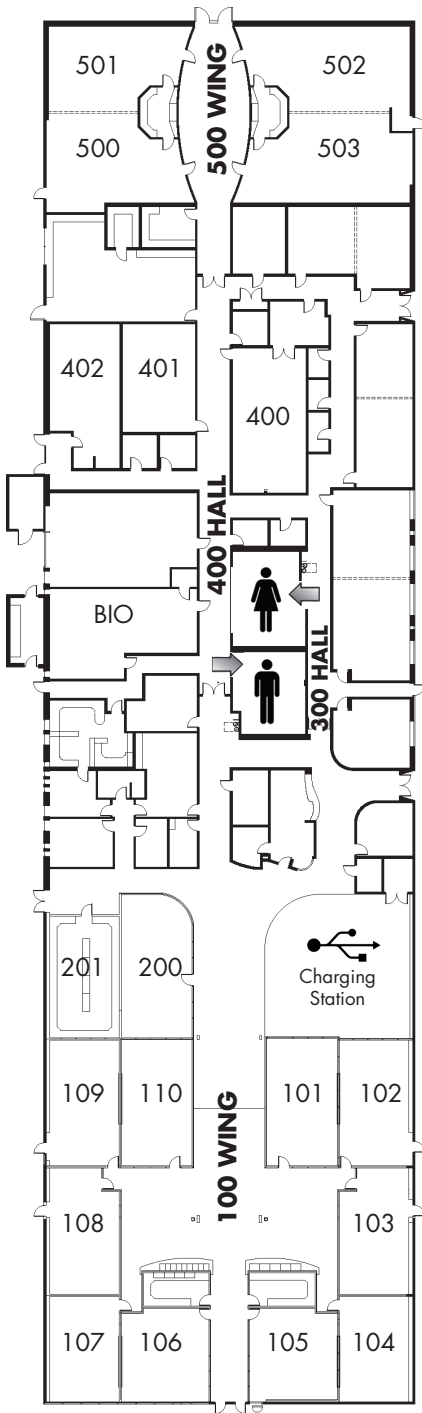
Come join our 4th grade Scratch programmers and learn how to start coding with Scratch! They will share their projects and walk you through the process of creating your very own interactive animation. If they can do it, so can you. Come learn how to code today!

Screen Printing with Henry Cohn-Geltner

Screenprinting is a technique to bring computer-generated or hand-drawn graphics to life, on surfaces like paper and textile. We will show every step of the process, and magically transform art into products. Most importantly, we will talk about how to do this cheaply and efficiently, so you can have a screen printing studio in your classroom or school with a little financial investment and a lot of sweat investment. We will have takeaways for you to create with your own hands.

Toy Story with Janna Steffan

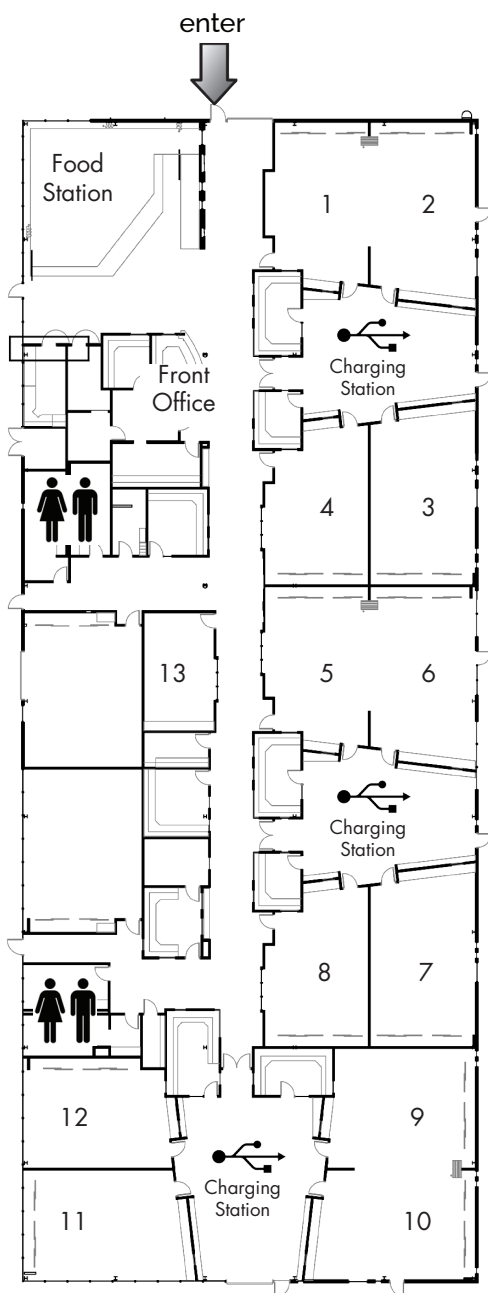
In the Toy Story project, we will explore the essential question, "What is the magic of toys?" To investigate this idea deeply, our students visited a local preschool and became buddies with these young children. After many drafts, critiques, revisions and prototypes the students took their toy designs to MakerPlace (a DIY workshop in San Diego) to professionally create the toys. In this workshop, you will create a doll, a rolling toy or a wood block puzzle similar to the ones our students created.



The Gary and Jerri-Ann Jacobs



HIGH TECH HIGH



Upcoming Events

Mark your calendars now! Deeper Learning 2016 will be held March 23-25, 2016 in San Diego, CA.

Check out these Deeper Learning organizations to participate in other professional development opportunities!

Asia Society
Big Picture Learning
ConnectEd
EdVisions
Envision Schools
Expeditionary Learning
High Tech High
Internationals Network for Public Schools
New Tech Network
New Visions

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