Institute for School Leaders, Teachers, Paraprofessionals, and Students

Friday, March 2, 2018 | 8am-5pm
University Hall, 1815 Massachusetts Avenue, Cambridge, MA (near Porter Square T)

Join us for an exciting series of workshops and presentations, led by Lesley University faculty and other local educators. Together we will explore the most effective strategies for engaging students in their critical thinking and problem solving skills, in order to make learning real, relevant, and engaging. Topics include:

- Project-Based Learning
- Helping All Students Learn Mathematics
- Universal Design for Learning
- Robotics Design
- STEAM-based Activities
- Makerspaces
Welcome to Lesley University’s 2018 Making Learning Meaningful institute!

Educators have known for decades that the best practices for helping students acquire higher order thinking skills and competencies have been those that engage them, that offer them active roles in their own learning, that help them build bridges across academic disciplines and benefit from collaborative connections with their classmates. Yet too often there exists a gulf between what we know should happen in theory, and how to actualize it in real classrooms with real students. “This is all well and good,” we say, “but how can I do this and still meet learning standards? How can I do this with the constraints imposed by my schedule, by my school’s facilities and resources, by the learning needs of particular groups of students?”

Today’s conference cannot provide one-size-fits-all answers to these questions, but what it can do is introduce you to some dynamic educators who can share with you some “tools” for your “toolbox,” strategies, and exemplars to get you thinking. We are particularly privileged to have with us today two educators from one of our partner universities in Fukuoka, Japan!

As participants, you are all resources for one another, so we hope you will fearlessly join in the process of sharing with one another. Our goal is for you to walk away excited about the possibilities and planning ways to adapt what you’ve learned to match the school and students that you know so well.

We also hope the conference will introduce you to, or reacquaint you with, Lesley University’s Graduate School of Education as a potential ongoing partner with you in this mission. Today’s offerings can provide teachers with a taste of what they and their colleagues could find by enrolling in our classes in pursuit of advanced degrees or salary scale benefits. They can give administrators an idea of the kind of professional development programming we can offer, in any number of modalities from one-shot sessions to long-term partnerships.

Please contact me (dnurenbe@lesley.edu) or Dean Jack Gillette (jgillett@lesley.edu) to begin a conversation about the next step in your relationship with Lesley!

Sincerely,

David Nurenberg, Ph.D.
Asst. Professor of Education
Lesley University

Acknowledgements:

We would like to thank everyone who played a role in organizing the conference (in alphabetical order): Zineb Benjelloun, Tina Carter de la Cruz, Shari Craig, Hillary Kreisberg, Frances Leighton, Valerie Shinas and Linda Triplett.

We extend our appreciation to the University Curriculum Committee for their help and support in designing the for-credit option for the institute.

Special thanks to graduate student Laura Karahalis for sustained and exceptional organizational support.
# Conference Schedule

Note that all rooms are on the second floor of this building (University Hall).

<table>
<thead>
<tr>
<th>Time</th>
<th>Amphitheater</th>
<th>Atrium</th>
<th>Makerspace</th>
<th>Rm 2-078</th>
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<tbody>
<tr>
<td>8:00am</td>
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<tr>
<td>8:15am</td>
<td>Introduction/ welcome by David Nurenberg, Asst. Prof. of Education &amp; Jack Gillette, Dean of the GSOE</td>
<td>Coffee and light refreshments</td>
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<tr>
<td><strong>Session I – 8:30am – 9:20am</strong></td>
<td>Introduction to PBL (Nurenberg)</td>
<td>Video programming on loop</td>
<td>Literacy through Making (Cusack, Edelman &amp; Shinas)</td>
<td>Implications of Research on Brain Development for Educational practice (Triplett)</td>
<td>Barefoot Engineers (Matthis)</td>
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<td><strong>Session II – 10:00 – 10:50am</strong></td>
<td>Introduction to PBL (Nurenberg)</td>
<td>Literacy through Making (Cusack, Edelman &amp; Shinas)</td>
<td>Implications of Research on Brain Development for Educational practice (Triplett)</td>
<td>Barefoot Engineers (Matthis)</td>
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<td><strong>Session III: 11:00am – 11:50am</strong></td>
<td>Building Bridges presentation (Glazer)</td>
<td>Wonderlab presentation (Rauchwerk, Mertl &amp; Kathrein)</td>
<td>Lesson study in Japanese schools (Nishiyama &amp; Notomi)</td>
<td>Classroom Management and PBL (Nurenberg)</td>
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<td><strong>Session IV: 1:00pm – 1:50pm</strong></td>
<td>Building Bridges presentation (Glazer)</td>
<td>Wonderlab presentation (Rauchwerk, Mertl &amp; Kathrein)</td>
<td>PBL in Mathematics (Kreisberg)</td>
<td>Classroom Management and PBL (Nurenberg)</td>
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<td><strong>Session V: 2:00pm – 2:50pm</strong></td>
<td>UDL in Japanese schools (Nishiyama &amp; Notomi)</td>
<td>Video programming on loop</td>
<td>PBL in Mathematics (Kreisberg)</td>
<td>“PBL clinic”/ workshop (Nurenberg)</td>
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<td>3:00pm – 3:50pm</td>
<td>Reflection/discussion breakout session</td>
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<td>4:00pm – 5:00pm</td>
<td>Farewell remarks and feedback</td>
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**ADJOURNMENT**
Barefoot Engineers: Designing a Pedagogical Approach to Select Robotic Projects for K-12 Teachers (Sessions I & II)

**Presenter:** Brenda Matthis

**Summary:** It took a few years of teaching robotics to K-12 educators to figure out why they were not reaching the results desired from their final projects. In this session, you will participate in creating, and experiencing, how pedagogical context and hands-on experience combine to provide project-based learning that is the necessary for learning and teaching robotics—not just build projects. Together we will discuss the steps taken to rebuild the course from scratch, starting with laying the pedagogical foundations on which the course rests, Universal Design for Learning being chief among them. Then we will complete a project-based robotic assignment, with the knowledge that there is “no-fault” grading and deep-collaboration. The hope is that you will feel and internalize the learning experience using this approach, and gain happiness with the knowledge that you truly understand what was taught, and can teach others. There is homework involved!

Prior to the session please view [Bunker Roy: Learning from a Barefoot Movement](http://www.youtube.com/watch?v=6qqqVwM6bMM).

**About the presenter:** Brenda Matthis is Associate Professor and Chair of the GSOE Ph.D. in Educational Studies Department, where the majority of her doctoral advisees’ research topics involve technology, education and the arts; and faculty in the STEM Department in the Graduate School of Education, where she teaches a robotics course. Her professional passions, expertise and research areas include the social construction of software, emergent technologies for late-deafened and hard of hearing (HOH) adults, technologies for K-12 students with disabilities, and teaching Universal Design for Learning. She is a member of IEEE and WIE, whose focus is teaching how to teach the three pillars of robotics: mechanical, electrical/electronic and computer programming to educators.

Building Bridges: the Power of Project-Based Learning to Create Connections across Classrooms, Cliques, and Cultures (Sessions III & IV)

**Presenter:** Johanna Glazer

**Summary:** Through interdisciplinary, experiential, creative, and collaborative work, the Concord River Institute and the Rivers and Revolutions program at Concord-Carlisle High School have engaged students in deep learning. A central tenant of these programs is that collaborative and creative activities help students bridge social and cultural divides and create community. Through collaborative, project based work, whether in a local high school or in another country, students increase their cultural competency, empathy, communication skills, and creativity. By working to achieve shared goals and products, students develop their own voices while also developing empathy, social awareness, and the ability to truly listen to the voices of others.

This presentation will share the work of the Rivers and Revolutions program at Concord Carlisle High School and the Concord River Institute’s work in Cambodia. Participants will hear from students and
Conference Sessions (cont’d)

explore the power of project-based learning to build relationships, enhance learning, and prepare students to be global citizens.

About the presenter: Johanna Glazer has taught high school social studies in the greater Boston area for 24 years. For the last five years she has been a part of the Rivers and Revolutions program at Concord-Carlisle High School and has worked with the Concord River Institute on both local and international work. Johanna is also an Adjunct Professor in the Middle & High School program at Lesley’s Graduate School of Education.

Brief Introduction to Education in Japan, Lesson Studies with iPad in the UTEF Attached School (Session III)

Presenters: Hisako Nishiyama and Keiko Notomi

Summary: As isolation and lack of support for professional growth remain key concerns for American public educators, it may be valuable to examine the ways in which other countries address these issues. Jugyokenkyu is the Japanese practice of “lesson study,” also known as “public research lessons” (jugo means teaching and learning, while Kenkyu means research). In it, a group of teachers identifies a student learning problem, collectively come up with a proposed intervention, and then observe and critique one another’s execution of that method. What can American teachers learn from this practice? This session will outline one particular manifestation of Lesson Study as practiced by the University of Teacher Preparation at Fukuoka, Japan.

About the presenters:

Hisako Nishiyama is professor in Professional Practice in Education at the Graduate School, University of Teacher Education Fukuoka (Japan). Her research interests are School Counseling, Career Education and School Leadership. Prof. Nishiyama received the NASP President Award in 2011-2012.

Keiko Notomi (MD) is professor in Professional Practice in Education at the Graduate School, University of Teacher Education Fukuoka (Japan). Her research interests are inclusive education especially for ASD/ADHD/LD and UDL. She was leader of TAKUMI project of digital material of model lesson, SENS-SV (http://www.sens.or.jp/) and editorial board for JALD and JSPED. Four teachers from her Lab earned excellent teacher awards from Minister of Education, Culture, Sports, Science, and Technology. Lab: http://www.notomikeiko.com/

Classroom Management for Project Based Learning (PBL) (Sessions III & IV)

Presenter: David Nurenberg

Summary: Effective Project Based Learning often requires a classroom environment very different from the traditional "teacher at the front, students in rows" configuration. This workshop will explore some ways in which a teacher can ensure safety, order and productive work, as well as provide
necessary academic supports, in a classroom where students may be working in cooperative groups, asynchronously, at a wide range of differentiated tasks. It is challenging, but doable! We will review some best practices and solicit experiences, successful and unsuccessful, from participants.

About the presenter: David Nurenberg is Asst. Prof of Education and Core Faculty in the Middle & High School program at Lesley's GSOE. He has taught high school ELA and humanities for 18 years, and consults regularly in the Boston area and beyond.

Introduction to Project Based Learning (PBL) (Sessions I & II)

Presenter: David Nurenberg

Summary: “Project Based Learning” is an often-used buzzword, but what is it? Does everyone mean the same thing when they employ this term? PBL can encompass a wide range of pedagogies; Dr. Nurenberg will facilitate a presentation and discussion of some common definitions, best practices and key components of effective PBL, touching on such topics as driving questions, student voice and choice, interdisciplinarity, modular planning, cooperative learning and “real world” involvement. Most importantly, this session will focus on “Why PBL”—what advantages for engaging, higher order learning can PBL offer that makes it worth the time, effort and learning curve for educators.

Literacy through Making: Language and Learning in the MakerSpace (Sessions I & II)

Presenters: Sue Cusack, Jacy Edelman, and Valerie Harlow Shinas

Summary: In this presentation, attendees will explore how they can engage students in authentic literacy experiences and create space for creativity and inquiry through making. The presenters will introduce participants to the idea of meaning making through making and share ways to incorporate literacy within maker activities and experiences.

About the presenters:
Sue Cusack is an Assistant Professor in our STEM Program, and Director of the Lesley STEAM Learning Lab. She consults regularly to school districts, including Boston, Cambridge, Somerville, and Concord on making in an education context, the maker mindset, and the inclusive use of technology in support of student-centered learning.

Jacy Edelman is the Assistant Director for Lesley STEAM Learning Lab at Lesley’s Graduate School of Education. She co-facilitates coursework focused on STEAM integration and supports the integration of the maker mindset/STEAM curriculum through several public school partnerships.
Conference Sessions (cont’d)

Valerie Harlow Shinas is Associate Dean in the Lesley University Graduate School of Education. A former middle school teacher and building-level Reading Specialist, her research has centered on integration of digital tools in the literacy classroom.

“PBL Clinic”/Workshop (Session V)

Facilitator: David Nurenberg

Summary: Bring your lesson plans, unit plans, or just your ideas – the facilitator and fellow participants will help you transform it to be more project-based, interdisciplinary, authentic and engaging!

Project Based Learning in Mathematics: How to Supplement Your Curriculum to Make Math Meaningful (Sessions IV & V)

Presenter: Hilary Kreisberg

Summary: In this session, participants will choose from a menu of project options relating to the domains or practices of mathematics and will work collaboratively or independently to complete at least one task. Should time allow, participants will adapt the menu of projects to fit the needs of the grade levels for which they work to be able to implement it the following Monday!

About the presenter: Hilary Kreisberg is the Director of the Center for Mathematics Achievement at Lesley University and an Assistant Professor of Math Education. She is also the President of the Boston Area Mathematics Specialists organization. Dr. Kreisberg is a former elementary school teacher and K-5 Math Coach.

The Implications of Research on Brain Development for Educational Practices (Sessions I & II)

Presenter: Linda Mensing-Triplett

Summary: Current research on brain development has a great deal to tell us about why teachers must concern themselves with engaging students in learning while also helping them “learn how to learn”. Project based learning has proven to be very effective in reaching students in these ways. Educators have always sought to “shape young minds” through the educational experiences they provide for students. However, until recently we did not know how much this was literally true. The learning experiences we provide for our students actually change the structure and functions of their brains. This presentation will focus on ideas from current research on brain development and what they have to tell us about effective teaching strategies.

About the presenter: Dr. Triplett is the program manager for the Middle & High School certification programs at Lesley University’s Graduate School of Education.
Universal Design for Learning in Elementary and Secondary Education in Japan
(Session V)

Presenters: Hisako Nishiyama and Keiko Notomi

Summary: UDL has been used as a framework to inform inclusive American design, engineering and education since the 1990s. What is the history of how has this practice has manifested itself in Japan? This presentation will explore some of UDL’s usage and impact on elementary and secondary education in that nation. What can Americans and Japanese learn from one another in their ongoing efforts to serve diverse groups of learners?

WonderLab: A STEAM Based University Lab School (Sessions III & IV)

Presenters: Susan Rauchwerk, Amy Mertl, and Laura Kathrein

Summary: This panel presentation will discuss the program and research outcomes of WonderLab, a 21st century STEAM Lab School where Lesley faculty and students engage school-age children in authentic, hands-on, research-based STEAM activities through critical exploration. Workshop participants will engage in a WonderLab critical exploration, and explore the many facets of the program.

Preliminary findings from the pilot year show that WonderLab:

- Serves as a platform where pre-service and in-service educators can practice what they study in classes, conduct independent teacher inquiry investigations, and develop trans-disciplinary, locally relevant curricula.
- Enables education faculty to implement new methods and approaches in educator professional development, and to support learning research.
- Provides a platform for citizen science research where science faculty can develop collaborative studies that enable them to co-publish with elementary-age students.
- Maximizes the use of university spaces including science lab facilities, studios and urban greenspace.
- Provides on-site programming for university employee children, as well as children from neighboring towns.
- Provides authentic, hands-on environmental education to students in an urban environment that can serve as an incubator and support for teachers and schools.
- Provides a platform for field-based opportunities inviting collaboration and open discussion of pedagogical approaches in the field.
- Invites collaboration from local schools and informal learning centers who ask to bring their groups to participate in WonderLab experiences.
- Provides multi-layered, multi-generational learning opportunities.
- Offers a wide variety of learning and research opportunities.
- Is financially viable without large fees or grants.
Conference Sessions (cont’d)

About the Presenters:
Susan Rauchwerk is an Associate Professor who has served as the Director of the Urban Teacher Center, co-director of the Elementary Education and Science in Education programs. She has taught in a variety of formal and informal settings, and is the Executive Director of WonderLab.

Amy Mertl is assistant professor in Natural Science and Math Division. Her current research involves investigating the diversity, ecology and structure of ant and termite communities in New England forests. This project currently engages Lesley students and community members in citizen science projects. Amy also has a background in using film and video as educational tools. She has co-produced several short documentaries through Project Documentary at CCTV, including “Ants” an award-winning short film on her favorite tiny subjects. She serves as the CFO for WonderLab.

Laura Kathrein is a graduate of the Lesley University Community Arts program. She harnesses the power of dance as a means to increase environmental awareness and community engagement. Laura has extensive experience teaching arts-integrated education in urban, suburban and rural wilderness settings. In addition to her work in conservation and education, Laura became a leader in the town of Bethlehem, NH for arts initiatives and programming. She serves as the Assistant Director of WonderLab.