Transforming Education from the Inside Out

THREE YEARS OF HILT GRANTS TO SEED EXPERIMENTAL TEACHING AND LEARNING AT HARVARD

FALL 2014 SNAPSHOT
HILT and our Grants Program began three years ago when Rita and Gus Hauser generously provided funds to President Faust for teaching and learning innovation. From the beginning we’ve defined successful grants as those that scale or extend to other areas of the university, but there is much more to say about both success and failure. We would like with this document to spark a rich and authentic exchange about the outcomes of educational innovation.

HILT has funded 60 projects to date. These have ranged from the simple to the very complex, from easy wins to high-risk, and from no- or low-tech, to high-tech. Awardees represent every Harvard school and include faculty, students, and academic professional staff. Our review committees have deliberated over 400 proposals from nearly 1,100 applicants. What have we learned? These numbers alone signal huge interest. They also represent a large set of rejected proposals (though our “rejection” discussions have yielded some great community-building successes). Evaluation is a tricky business, but my own view is that the Grants Program has been enormously successful in seeding experimentation, collaborations, and vibrant dialogue around this difficult work.

There is no shortage of creative ideas or talented individuals at Harvard focused on improving educational experiences. But we collectively need more time and better measures to deeply understand outcomes.

As a first step, we offer some emerging insights and themes drawn from the work and from conversations with grant recipients. The projects highlighted here provide a few concrete exemplars, with many more available, and much more documentation to come in multimedia and non-static forms. Our hope is that these examples and themes will encourage grantees and others to keep asking the tough questions and sharing results, whether expected or unexpected, unqualified successes or so-called failures. Please take a few minutes to delve in, share in our excitement, ask questions, and learn from one another.

With warm regards,

Erin Driver-Linn
Director, Harvard Initiative for Learning and Teaching
Associate Provost for Institutional Research
Emerging themes
THREE YEARS OF HILT-FUNDED EXPERIMENTATION

Innovation is time-consuming and messy
Successful HILT grants have provided participants with the time, opportunity, and space needed for the messiness that often accompanies new approaches. Time constraints and complications have forced some grantees to dial back expectations, give up, or remain in a pilot phase. This isn’t failure—it’s simply part of the process.

The best collaborations start simple
Some of the most successful collaborations have been straightforward, building on simple and common goals. Projects involving more complex collaborations have been hamstrung by logistical and structural barriers and issues of diffuse ownership.

Advancing student learning = learning from students
Some of the most exciting projects have involved multiple generations of learners—undergraduates, graduates, postdocs, faculty—with the learning flowing all directions. Projects that depend more heavily on a one-way, instructor-to-student learning model have often proved less experiential and have yielded more narrow findings and insights.

New technology often yields happy accidents
The biggest benefits of new technological tools may be the unexpected byproducts they yield. HILT projects have shown us that digital tools can surprise us with unforeseen benefits. Conversely, some technology-based projects that have achieved objectives stringently defined from the start may generate fewer beneficial ripple effects.

In these and other successful HILT projects, participants gave themselves the time and space to discover new educational approaches, as well as permission to fail.

HILT has awarded 60 grants totaling $2,466,905 since 2012, and also supports larger, longer-term school-based priorities.
Thinking outside the SciBox

Can changing the spaces where people learn make a difference in how they learn? Physics instructors Logan McCarty and Melissa Franklin tested the relationship between learning and the built environment by reimagining a 2,500 square foot space in Harvard's Science Center as an experimental “black box” with flexible and customizable lab and classroom areas, a workshop for assembling projects, and a sitting area known as “the beach” where students can think and reflect away from their work.

In giving the space an open, unfinished feel, McCarty and Franklin created an environment that encourages interaction and experimentation, one where both faculty and students feel empowered to “get messy” and make mistakes. The project has been such a success that two additional spaces in the Science Center—SciBox 2.0—will be rebuilt next year, reflecting a similar concept.

This space may not change the way people answer physics questions, but it can change how they think about physics, and how they feel about physics. If we accomplish that, it would be a huge success. — LOGAN MCCARTY

Authentic portraiture, a look inside the classroom

Harvard faculty have a wealth of teaching insight and experience to share with one another, but sharing takes time and can set up vulnerabilities to criticism, and showcasing “great teachers” can actually increase barriers to adoption. The Harvard Graduate School of Education used grant funding to expand its “Faculty Focus on Teaching” project by offering authentic video portraits of instructors inside their sometimes imperfect classrooms and carefully creating forums for discussion about these portraits.

Though curated and produced with the buy-in of featured faculty, the videos are intentionally unpolished and candid, rather than scripted and edited. This has lowered barriers, and promoted dialogue and an uptake in shared practices. Based on the grant work, the team will continue to produce video portraits and has created a guidebook for others interested in launching similar efforts.

Video gives us a ‘shared text’ that enables us to talk together very concretely about teaching goals—and so to learn from one another. — JOE BLATT
The art of teaching across disciplines

Project: Framework Courses in Arts and Humanities

Team: Diana Sorensen (FAS), Homi Bhabha (FAS), Peter Sacks (FAS), Jennifer Roberts (FAS), Robin Kelsey (FAS), John Hamilton (FAS), Alexander Rehding (FAS)

Addressing what they perceived as a fundamental gap in humanities instruction, seven instructors from multiple disciplines came together to design and teach three new foundational courses.

The very structure of these experimental, interdisciplinary courses—The Art of Looking, The Art of Listening, and The Art of Reading—enabled instructors to teach in areas other than their own. The instructors met regularly throughout the semester to support one another and ensure the success of this experiment. They also provided opportunities for students in all three courses to meet and share their experiences with one another. The courses will be offered again in spring 2015 and additional cross-discipline courses are being designed and organized.

The instructors and TAs highlighted the ability to really critically analyze something and give a nuanced argument—abilities that are sometimes more valuable than a lot of ostensibly more practical disciplines like economics or hard sciences. — DARIUS ALTMAN, '17

The best collaborations start simple

Along with other successful HILT-funded projects, these two leveraged simple, straightforward collaboration to spark broadly applicable, new approaches to pedagogy. Low-hanging fruit needn’t be less sweet.

25% of HILT projects encompass cross-school collaborations, involving 62 faculty, staff and students across 9 schools.
**Conflict resolution simulated in the operating room**

Project: Learning and Teaching Negotiation and Conflict Resolution Skills To Enhance Patient Safety in the OR

Team: Sharon Muret-Wagstaff (HMS), Richard Whyte (HMS), Brett A. Simon (HMS), Jim Sebenius (HBS)

Things can and do go wrong in medical situations. When they do, effective negotiation and conflict resolution skills are crucial. To examine the challenges of effective communication in medical settings with little existing literature or practice in the medical area, Sharon Muret-Wagstaff, Brett A. Simon, and Richard Whyte partnered with Jim Sebenius of Harvard Business School.

They produced a series of five innovative workshops for faculty from the HMS Department of Anaesthesia and Department of Surgery, as well as operating room nurses, which took place in the simulated operating room at Beth Israel Deaconess Medical Center. The team plans to share the results of this unique partnership at an international conference later this year.

We took a model that’s been used successfully at the Business School and in the Law School’s Program on Negotiation and adapted it to medicine . . . we had 40 interdisciplinary faculty . . . all working together to learn new skills. — Sharon Muret-Wagstaff

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**Connecting the (statistical) dots**

Project: CASTLE: Coordinating and Advancing Statistical Teaching and Learning

Team: Xiao-Li Meng (FAS), Joseph Blitzstein (FAS), David Harrington (HSPH/FAS)

Statistics is taught in virtually every part of the University, though nomenclature varies and instructors are scattered across departments and campuses. Xiao-Li Meng, Joseph Blitzstein (pictured), and David Harrington designed and hosted a workshop called Coordinating and Advancing Statistical Teaching and Learning, or CASTLE, to bring together all statistics instructors for two days. More than 30 attendees took part in the workshop, which included presentations and conversation in areas such as statistics instruction, machine learning, pedagogical innovations, and assessment.

CASTLE will continue to meet, has developed a repository of shared materials, and has created new energy and interest in coordinating statistics-related activities on campus. The group plans to build a student-facing website about the various statistics courses offered at Harvard that will give students a sense of their diverse content, audiences, applied/theoretical balance, and how they are arranged and offered within departments.

One of the things that inspired me was the original meeting of the HILT symposium, and how much was learned from getting people with experience in the classroom into the same room to talk about the problems they were facing. It struck us that it would be great to start that way. — David Harrington

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**Collaboration**
Advancing student learning = learning from students

We often make the biggest advances in learning when everyone learns ... and everyone teaches.

12% of HILT Grant projects represent formal collaborations between a faculty member and a student or postdoctoral fellow.

“This was an opportunity across disciplines for people to share perspectives and learn a little bit more about what it feels like to walk in the other person’s shoes.”
Can difficult feedback increase collaboration?

Project: Expanding Existing Innovative Program for Assessing Student Learning in Hands-On Innovation Courses
Team: Beth Altringer (SEAS)

Beth Altringer's project explores the teaching and learning of collaboration skills. Her laboratory is an experiential, multi-disciplinary engineering class, and she is in the process of developing a rich descriptive analysis of how students learn to work productively with one another and with outside experts. Her methods include rigorous and multifaceted conversation pairings, and do not shy away from providing difficult feedback for each student that mixes quantitative and qualitative assessment. The process not only informs Altringer's instructional decisions but also students' understanding of the design behind their learning experience.

The results from her assessments are forming a foundational database from which tools for collaboration—between students, students and faculty, and students and experts—are in development.

We're building on what we know from the literature to create a multi-level, mixed-method feedback system designed to be useful to students and teachers alike, that can help us improve teaching and learning in innovation education classes. — BETH ALTRINGER

Fellows teaching fellows . . . and faculty

Project: Cultivating Communities of Practice in Graduate Student Teaching
Team: Nonie Lesaux (HGSE)

Through "Cultivating Communities of Practice in Graduate Student Teaching," HGSE teaching fellows took charge of their own learning, creating resources useful to them as well as faculty.

Using a peer-consulting network and a weekly e-blast called Collected Wisdom, fellows began to share teaching ideas and provide one another with timely teaching tips. The team also curated a set of protocols that feature practices for the Higher Ed classroom.

Today, the majority of the HGSE's teaching fellows read Collected Wisdom, and the protocols are proving a valuable teaching resource not just for fellows, but faculty too.

We realized that we needed a differentiated model to support our teaching fellows who have very active roles in our courses . . . — NONIE LESAUX

We're building on what we know from the literature to create a multi-level, mixed-method feedback system designed to be useful to students and teachers alike, that can help us improve teaching and learning in innovation education classes. — BETH ALTRINGER
New technology often yields happy accidents

More than one HILT project has surprised us with new uses for technology and resulting next generation educational tools and methods.

47% of HILT Grant projects involved teaching with technology or developing a new digital tool to support learning and teaching.

Student-inspired research

Project: Test-Enhanced Learning: Applying Principles of Cognitive Psychology to Education

Team: Daniel Schacter (FAS), Karl Szpunar (FAS)

Daniel Schacter, a memory researcher, and Karl Szpunar, a post-doctoral fellow, turned their scholarly attention to a recurring issue voiced by their students: the struggle to sustain attention during lectures. The team found that intermittently breaking up lectures with quizzes or comprehension checks produces a 25 percent increase in a student’s ability to focus on and learn from lectures. Their work was published in Proceedings of the National Academy of Sciences and was covered by the Boston Globe and other mass media outlets, generating extremely positive responses from scientists and educators.

The general idea for our study really came out of some observations that we have made … students frequently complain that over the extended period of a lecture, they find it harder and harder to pay attention to what they are being taught. — KARL SZPUNAR
An inspiring course inspires new technology

Project: Japanese Disaster Archive: Developing and Teaching with a Digital Archive
Team: Andrew Gordon (FAS), Theodore Bestor (FAS), Kyle Parry (FAS), Jesse Shapins (GSD), James Burns (GSD)

Andrew Gordon and Theodore Bestor received funding to offer a unique seminar that used the Japanese Disaster Archive (JDA)—a digital archive of multimedia sources surrounding Japan’s 2011 natural disasters—as its central teaching resource.

As Gordon, Bestor, and a diverse group of students experimented with ways to generate meaning from a plethora of news articles, websites, audio and video recordings, tweets, and other digital material, teaching fellow and JDA developer Kyle Parry bumped into an idea for new educational technology.

A principal at Harvard’s metaLAB, Parry’s work with Gordon and Bestor’s course gave him key inspiration for “Waku”—a new platform designed for assembling objects, visualizations, text, and annotations into stories—which he developed in collaboration with metaLAB colleague, Jessica Yurkofsky.

Similar to the curation tool Parry helped develop for JDA and Gordon and Bestor’s course, Waku is a more flexible, intuitive, and powerful way to make use of a collection of digital materials. Scheduled for beta release this year, Waku will also be integrated this fall into the JDA.

Developed in one school, it could be “clipped” by all

Project: Learning from Leaders: Weaving a Leadership Narrative into the Educational Experience
Team: Ian Lapp (HSPH), Miranda Daniloff Mancusi (HSPH), Deane Eastwood (HSPH), Betty Johnson (HSPH), Lisa Mirowitz (HSPH), Alexandria King-Close (HSPH), Robert Blendon (HSPH/HKS)

With HILT funding, Ian Lapp, Miranda Daniloff Mancusi, and team set out to create new technology that Harvard School of Public Health faculty and students could use for integrating clips from HSPH-produced video recordings into their curricula, classes, and online conversations.

“EduClip: The video sharing tool” is a web-based platform that lets users with no video editing expertise quickly and easily search and view video collections, and then seamlessly share specific segments through email, presentation software, or social media.

This useful new tool is enjoying an enthusiastic reception among HSPH faculty and students who are finding creative ways to consider archived video content from The Forum at HSPH as well as the webcast series Voices in Leadership. It has potential to be used by all schools, faculty, and students across Harvard, and has been distributed to public health programs across North America.

The grant prompted us to think about how a digital platform could help us incorporate the leadership narratives from over 80 hours of video production into the classroom, integrated with our faculty’s course content, and beyond.

— IAN LAPP

There are people at Harvard in the business of building digital archives and also usage methods of digital archives, and that was a key transforming moment when we … brought in this idea of participation, that you need to build something where the user of it is a participant in the making of it.

— ANDREW GORDON
It’s not just about creating the (digital) assets, it’s about the thought process of how to integrate that material into the culture.
LOGAN McCARTY (FAS)

MELISSA FRANKLIN (FAS)

Sclero 1.0: An innovative, experimental learning space inspiring creative approaches to teaching.

JOHN E. MCDONOUGH (HSHP)

ELIZABETH A. CITY (HGSE)

LOREN GARY (HKS)

Leadership and authority in groups: An innovative and experiential leadership development collaboration.

XIAO-LI MENG (FAS)

JOSEPH BLITZSTEIN (FAS)

DAN HARRINGTON (HSHP/HGSE)

Coordinating and advancing statistical teaching and learning (CASTLE)

KATHERINE MERSETHE (HSHP)

Learning badges: A tool to enhance student learning in higher education.

SHARON MURET-WAGSTAFF (HMS)

RICHARD WHITE (HKS)

BERT A. SIMON (HKS)

JAMES K. SEBENUS (HKS)

Learning and teaching negotiation and conflict resolution skills to enhance patient safety in the OR

DENNIS NORMAN (HKS)

SHELLEY LOWE (OTHER)

Native Americans in the 21st century: Nation Building II community projects

MARIA LUISA PARRA (FAS)

ELVIRA DE FABIO (FAS)

Language through the visual arts: An interdisciplinary partnership

DIANE PAULUS (FAS)

RYAN MCKITTICK (FAS)

THOMAS DERAH (FAS)

BRENDAN SHEA (FAS)

Shira Milikowsky (FAS)

A Model for teaching and curriculum development informed by the theoretical process

ALEXANDER RENDING (FAS)

Sound studies

VANESSA RODRIGUEZ (HGSE)

KURT FISCHER (HGSE)

Understanding the teaching brain

JEFFREY T. SCHNAPP (FAS)

JESSE SHAPIROS (GSAS)

MATTHEW BATTLES (OTHER)

PETER GALISON (FAS)

NED FRIEDMAN (FAS)

Teaching with things: Curation, hybrid multimedia, and object-oriented pedagogy

CHARLES CHRISTOPHER SMITH (HMS)

LOI R. NEUMAN (HKS)

GRACE HUANGS (HMS)

RICHARD SCHWARZTZEIN (HGS)

EILEEN REYNOLDS (HKS)

Those who teach, can: Characterizing the link between teaching and professional competency

DIANA SOORENSEN (FAS)

HOMI BHABHA (FAS)

PETER SACKS (FAS)

JENNIFER ROBERTS (FAS)

ROBIN KELSEY (FAS)

JOHN HAMILTON (FAS)

ALEXANDER RENDING (FAS)

Framework courses in arts and humanities

KARL L. SZPINAR (FAS)

DANIEL L. SCHACTER (FAS)

Test-enhanced learning: Applying principles of cognitive psychology to education

BRUCE WESTERN (FAS)

KAIA STEIN (HDS)

Harvard students and incarcerated students. Learning together in a prison classroom

DAVID WILKINS (HLS)

SCOTT WESTFAHL (HLS)

Enhancing student team effectiveness

CHRISTOPHER WINSHIP (FAS)

DAN O’BRIEN (OTHER)

Exploring community differences using spatial data

JONATHAN ZITTRAIIN (HLS)

URS GASSER (HLS)

SUZANNE WONES (HLS)

HDO: Adaptable digital textbooks

SPARK AND CULTIVATION GRANTS

Building on the success of the first round of grants, HILT designed two types of grants for subsequent rounds in order to simultaneously catalyze new, innovative ideas and find ways to scale, sustain, and institutionalize successful innovations.

Sophomores Spark Grants, introduced in 2015, are awarded $5,000 - $15,000 designed to help “spark” promising teaching and learning projects from idea to reality and position innovations for future success.

HILT Cultivation Grants’ up to $200,000 are designed to extend promising educational innovations into new intellectual and institutional contexts, and to rigorously investigate the potential of their wide-scale adoption across the University.

STEPHEN BLYTH (FAS)

Integrating consequential simulations in coursework

BETHANY BURIAK (FAS)

GORDON KRAFT-TODD (OTHER)

EREZ YODER (OTHER)

Improving learning experiences by building cooperative environments in classrooms

ALYSSA GOODMAN (FAS)

EDO BERGERS (FAS)

ALICIA SOBERG (FAS)

JOHN JOHNSON (FAS)

ROBERT KIRSHNER (FAS)

DIMTAR SASSELOV (FAS)

New gateway to STEM

WINSTON HIDE (HSHP)

WILLIAM GELBART (FAS)

MAXWELL HEIMAN (HMS)

Teaching genomics across Harvard schools

CHARLES LANG (HGS)

SUCHITRA SAXENA (HGSE)

Study of collaborative writing

DAN LEVY (HKS)

Faculty scholarly working papers on teaching and learning

KRS-STELLA TRUMP (FAS)

Repository of TF section notes

ABHA ANJALI (HMS)

MELANIE STEFAN (FAS)

Improving statistics literacy in graduate students and postdoctoral fellows in the life sciences

ERIK BAUCH (FAS)

GEORGE KUSCKO (FAS)

Open Review platform

NICOLE MILLS (FAS)

STACEY KATZ BOURNS (FAS)

VIRGINIA MAUSER (FAS)

Innovation and accountability in foreign language program evaluation

MICHAEL VAN VALKENBURGH (GSAS)

Teaching creativity. Landscape, architecture, originality, and autobiography

BILL WISSER (HGSE)

Online learning models matrix

EDWARD KRUPAT (HMS)

RICHARD SCHWARTZSTEIN (HMS)

JEREMY RICHARDS (HMS)

AMY SULIVAN (HKS)

DAVID ROBERTS (HMS)

“Assessing the impact of an innovative curriculum at Harvard Medical School: A new paradigm for medical education

KEN NAKAYAMA (FAS)

KRZYSZTOF GAJOS (FAS/SEAS)

RYAN ENOS (FAS)

“New educational opportunities at Harvard through online behavioral research

DAN SMAIL (FAS)

ANN BLAIR (FAS)

ROWAN DORIN (FAS)

“Digital Teaching Fellow program

Six additional Spark Grants were awarded September, 2014.

MORE INFORMATION: HILT.HARVARD.EDU/GRANTS