



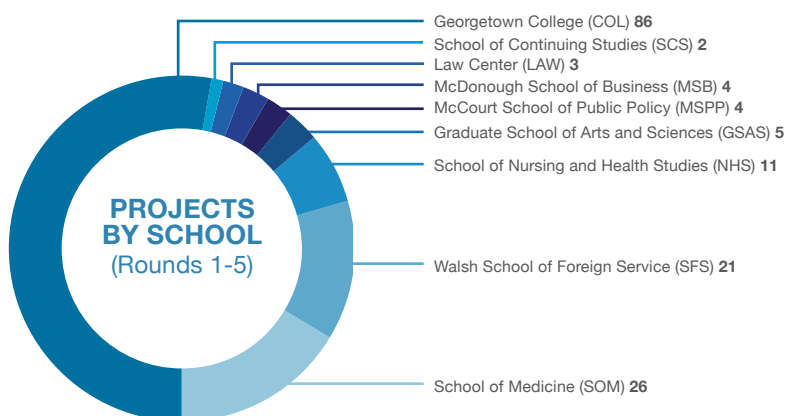
INITIATIVE ON TECHNOLOGY-ENHANCED LEARNING

2015 Report

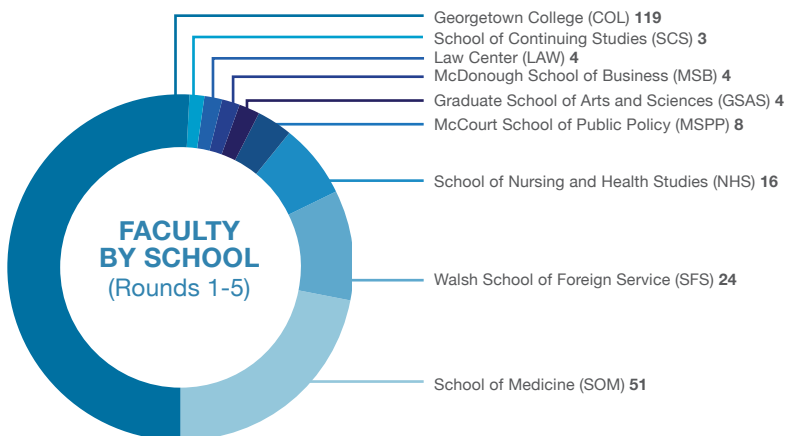
ABOUT ITEL

Since the spring of 2013, the Initiative on Technology-Enhanced Learning (ITEL)—an \$8 million investment in faculty grants, digital infrastructure improvements, and a partnership with edX—has provided funding and support to Georgetown University faculty in order to bring technology-focused teaching and learning projects to life. This initiative, one component of the capital campaign *For Generations to Come*, serves as an incubator for boundary-pushing experiments in teaching and learning, facilitating the widespread adoption of promising tools and approaches both on-campus and globally online.

162
PROJECTS



233
UNIQUE
FACULTY



7,404+ GU STUDENTS

For project videos, additional stories, and assessment data, visit ITEL.GEORGETOWN.EDU.

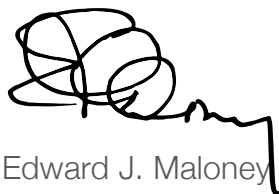
FROM THE EXECUTIVE DIRECTOR

I am pleased to present the second report on Georgetown's Initiative for Technology-Enhanced Learning (ITEL), marking almost three years of on-campus and Massive Open Online Course (MOOC) projects transforming teaching and learning at our university. The following pages detail our most important findings and challenges, as well as recommendations for next steps. A few recent highlights include:

- Georgetown University and the Center for New Designs in Learning and Scholarship (CNDLS) hosted the 2015 edX Global Forum, where over 360 edX partner members from around the world met to discuss online learning and collaboratively explore emerging trends in online education.
- The cost-effective ITEL faculty cohort model expanded to include nine thematic cohorts, each of which convened small interdisciplinary peer groups supporting faculty exploration and application of proven educational technologies.
- GeorgetownX MOOCs became more sustainable through low-cost reiterations and the launch of our first self-paced MOOC.
- ITEL projects generated significant contributions to research, including six articles, one book, two iBooks, 36 presentations at national and international conferences, and 12 presentations at on-campus institutes.

As we plan for the next phase of sustaining and expanding technology-enhanced learning here at Georgetown, the findings detailed in the following pages will help us identify which approaches deserve the most robust exploration and wide-spread application in order to best serve our faculty and students.

Sincerely,

A handwritten signature in black ink, appearing to read 'E. Maloney', with a stylized, looping flourish at the end.

Edward J. Maloney Ph.D.
Executive Director, CNDLS

EXECUTIVE SUMMARY

ITEL has challenged faculty to take risks and experiment with new ways of achieving Georgetown's mission through innovative teaching practices, and faculty have eagerly—and productively—taken up this challenge. Through five rounds of funding, ITEL has supported:

- **55 Open Track projects**, moderately-sized individual and collaborative faculty projects focusing on courses and curricula;
- **8 GeorgetownX MOOCs**, resulting in the development, launch, and reiteration of massive open online courses reaching over 140,000 students worldwide; and
- **99 Cohort projects**, which bring together interdisciplinary faculty groups for small-scale experimentations with new and proven educational technologies.

Key findings

Faculty reports and assessment data have led to key findings that are enriching our understanding of how effective learning takes place, helping us to transition innovative practices into the mainstream, inspiring new research questions, and enabling experimentation “at the edges.”

- Ninety-three percent of Open Track projects evaluated this year demonstrated substantial or moderate impact on students, with a similar number (94 percent) having a moderate, substantial, or transformative impact on the faculty involved.
- ITEL projects not only employ new technologies to deliver content or engage students; they also teach students new skills essential to their future professional success, such as harnessing big data, using cutting-edge research software, and implementing collaborative design-based approaches to problem-solving.
- Telecollaboration practices, which connect language partners for real-time practice and exchange, were found to be highly enjoyable for students and effective for deep engagement and authentic language production.
- Hybrid models of flipping the classroom continue to prove successful at Georgetown for enabling equivalent student learning while solving seat time challenges, in particular for language learning and large classes.
- GeorgetownX MOOCs have provided high-quality and flexible learning opportunities to over 140,000 people worldwide, almost 7,000 of whom have earned course certificates.

Successes and challenges

Since the publication of the first ITEL Report, we have identified the following additional successes and challenges.

- Cross-institutional collaboration with Classroom Education Technology Services, University Information Services, and the Georgetown University Library created broad support of successfully-piloted instructional technologies.
- Lower-cost reiterations and the launch of our first self-paced MOOC enabled more cost-effective and sustainable GeorgetownX MOOCs.
- Research on ITEL projects generated nearly 60 publications and presentations, demonstrating the wide application of and interest in these innovations.
- Sustainability of successful projects past the official grant period remains a challenge, as technology, extra time and effort by faculty, development support, and other costs associated with innovation do not disappear after the grant period ends.
- Impact of ITEL Open Track projects remains focused at the individual course level, with lesser impact at the curricular level.

Recommendations for next steps

Based on the first four rounds of ITEL grants, we recommend the following steps for continuing to support technology-enhanced learning at Georgetown:

1. **Move into a sustainability phase of ITEL** where broad support for the best practices with technology are promoted and supported across our campuses.
2. **Foster a culture that rewards faculty for innovative teaching**, which means tolerating failure, creating space within the current evaluation structure to take risks in teaching, and recognizing that technology-enhanced learning can contribute toward a positive career trajectory.
3. **Partner with faculty and students** to learn more about their technology needs and goals, as well as perceived obstacles.
4. **Increase wireless support in classrooms** for large-scale collaboration and connection across multiple types of devices.
5. **Continue to refine our models of online learning** and MOOC course design to take advantage of integrative learning outcomes, flexible approaches to skills development and paths to degrees, and revenue-generating potential.

OPEN TRACK THEME: BIG DATA

Hands-on experiential learning and visualization

The skills to harness and analyze “big data” are in great demand in today’s workforce. In two recent ITEL projects, Georgetown faculty designed hands-on experiences where their students learned how to use tools for data analysis and visualization in order to prepare them to enter their chosen fields with the skills to address real-life problems.

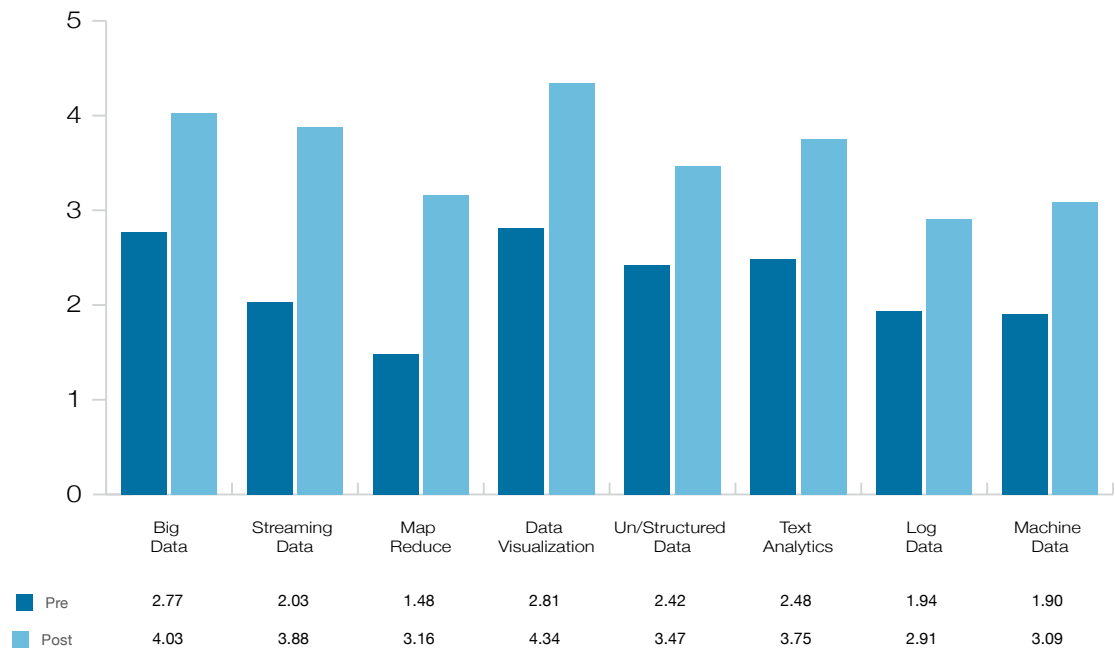
90%

Students who reported a fair or significant amount of knowledge of big data topics at end of course

Betsy Sigman (McDonough School of Business) found that giving students a hands-on opportunity to access and analyze data from logs, machines, and social media seemed to increase their **understanding of many components of big-data-related knowledge, such as streaming data, data visualization, and text analytics** (See Figure 1). Sigman’s students used Splunk to capture and index Twitter feeds and other data, and Tableau to create visualizations to rapidly track and analyze trends in order to make better business and organizational decisions. Despite some frustrations with the availability of data, students created projects on topics such as the NFL, MLB salaries, and events like the launch of the Apple iPhone 6.

Learn more at: ITEL.GEORGETOWN.EDU/PROJECTS/SIGMAN/

Figure 1: Students’ self-reported knowledge of data topics pre- and post class activities, rated on a scale from 1 to 5.



OPEN TRACK THEME: TELECOLLABORATION

Synchronous and asynchronous linguistic and intercultural exchange

Authentic speaking practice and interpersonal exchanges are essential to language learning, but the traditional classroom limits the range and depth of those exchanges to the people who happen to be in the room, who are often other students also trying to learn the new language. Many language-learning based ITEL projects utilize telecommunications and video conference technology to facilitate meaningful, repeated, one-on-one language exchanges with native speakers. This extends the boundaries of the classroom not only beyond the room but, in fact, across the world, in an effective, personalized way.

CHAT
CONVERSATIONS **66** →

BLOG
POSTS **78** →

STUDENT
WEBSITES **12** →

Marianna Ryshina-Pankova (German) reconceptualized an advanced-level German course, Issues and Trends, to incorporate diverse forms of synchronous and asynchronous bilingual exchanges, including chats, blogs, and student websites. Georgetown students and their partners at the Pedagogical University in Heidelberg, Germany, were encouraged to engage with sophisticated content and to use academic language registers to reflect on and interpret complex social phenomena characteristic of their home countries. Analysis of an end-of-semester survey suggested that the **telecollaboration chats helped students to engage more deeply with the readings, reflect on their own cultural views and opinions, and produce a longer authentic conversation than in a regular class discussion.**

Learn more at: ITEL.GEORGETOWN.EDU/PROJECTS/PANKOVA/



TECHNOLOGY HIGHLIGHT

Video conference technology has been used in six different ITEL Open Track projects to date:

- Four of these projects focused on peer-to-peer interactions in a cross-cultural setting.
- Two projects leveraged video chats for interaction between students and professors in a flipped classroom setting.

Michael Ferreira (Spanish and Portuguese) started implementing teletandem—a video-based collaborative learning exchange using Skype or Google Hangout—in Portuguese classes at Georgetown in 2008, in partnership with one of the architects of this method, Dr. João Telles (State University of São Paulo at Assis, Brazil). This method facilitates not only a more authentic mode of language learning, but also friendships and the reciprocal exchange of cultural information. Through a one-year ITEL grant, Ferreira worked with colleagues to expand the teletandem method to other languages at Georgetown, including Spanish, Arabic, French, Japanese, Russian, and Turkish. Preliminary assessment suggests that **students find teletandem exchanges to be highly enjoyable and effective—particularly those students who already have a year or more of traditional classroom learning and are looking to practice their conversational skills and gain cultural exposure.**

Learn more at: ITEL.GEORGETOWN.EDU/PROJECTS/FERREIRA/

← **81%**
students who enjoyed learning
through teletandem



ABOVE: Students engaged in teletandem for language learning.

“I learned a lot about the subject matter from the German perspective. It’s one thing to read articles written from different points of view and come to a conclusion. It’s another to speak with someone who has dealt with these topics and has firsthand experience.”

— Student in Lioudmila Fedorova’s course utilizing teletandem

OPEN TRACK THEME: CURA PERSONALIS

Supporting student reflection and self-care

In addition to increasing the efficiency and effectiveness of classroom practices, many ITEL projects address the question of how educational technologies can be used to enable deep reflection, integration of learning, and respectful engagement with the opinions of others. These projects specifically look to develop technologically-informed practices of learning that help expand and deepen the Jesuit value of educating the whole person.

126

First-Year Colloquium students

14

NHS faculty and Student
Academic Affairs partners

Joan Riley (Human Science) led a multi-section redesign of the Nursing and Health Studies' mandatory First-Year Colloquium. Riley used fitness trackers to help students reflect on the meaning of their own fitness data to improve their well-being, and ePortfolios to facilitate metacognitive reflection on their own learning. Riley has found that forming a community of practice around reflection and skill-building, composed of professional staff and faculty, has helped **to create a learning climate characterized by intentionality, interaction, and reflection that helps students thrive in college.**

Learn more at: [ITEL.GEORGETOWN.EDU/PROJECTS/RILEY-4/](https://itel.georgetown.edu/projects/riley-4/)

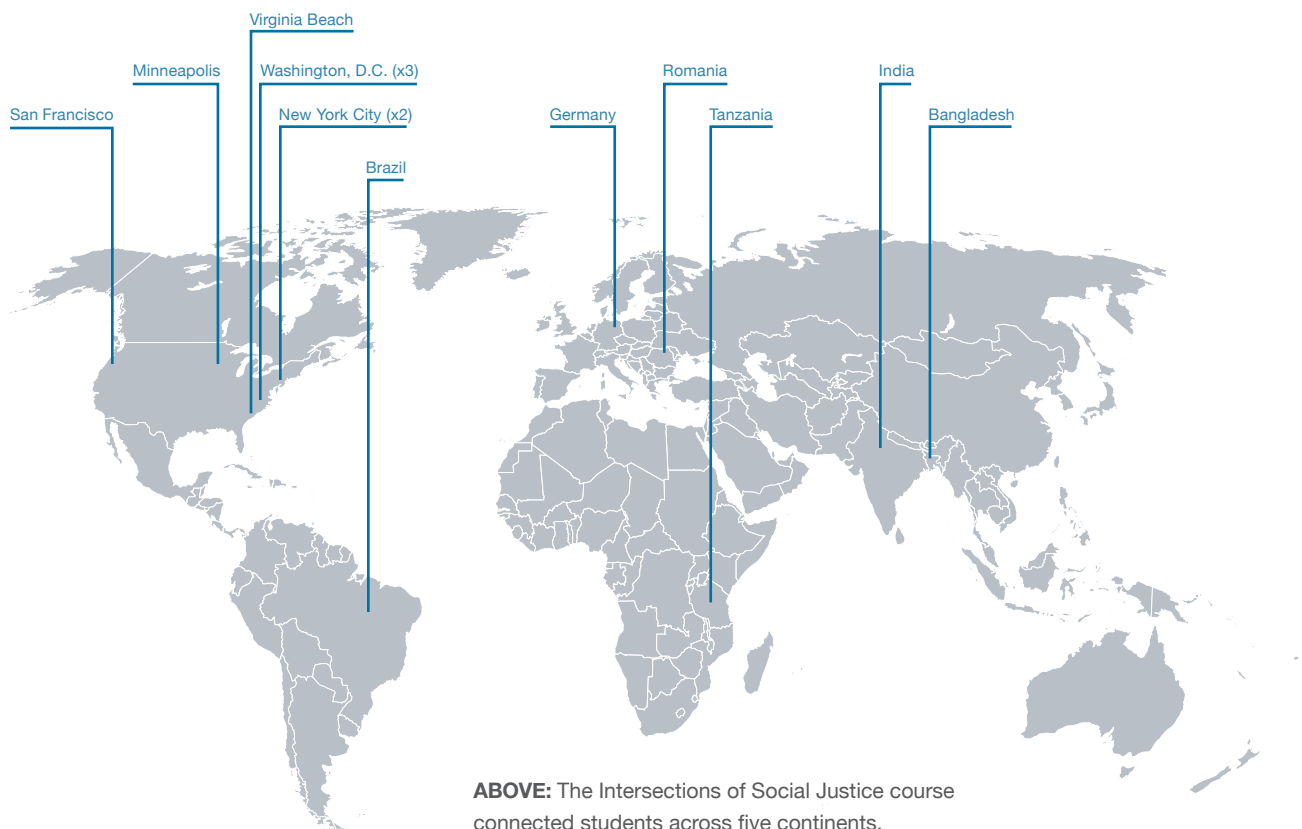
"I learned it isn't always what you are teaching (the outcome) but how you teach it (the journey). You still need outcomes and they need to be high and difficult to reach, but as instructors you need to focus on the pathway to get your students there as much as identifying the destination."

— Doug Little, Senior Assistant Dean, Student Academic Affairs and member of the FYC Colloquium ITEL Project



TECHNOLOGY HIGHLIGHT

ePortfolios and personalized web domain spaces are frequently leveraged to increase student reflection and integrative thinking by giving students a forum where they are expected to make their thinking visible. Faculty cohorts that focused on ePortfolios and A Domain of One's Own, along with three Open Track projects, have generated a total of **18 ITEL projects** utilizing student-created and curated e-spaces.



Andria Wisler, Executive Director of the Center for Social Justice Research, Teaching & Service (CSJ), along with CSJ colleagues **Amanda Munroe** and **Michael Loadenthal**, developed and piloted Intersections of Social Justice, a field-based online learning opportunity offered as a university-wide experimental “UNXP” course. Students engaged in reflective practice at community organizations while in virtual collaboration with a tight-knit learning cohort. Piloted in summer 2015 with 11 students learning across ten time zones, students engaged in diverse community-based work: researching road safety in Tanzania, boxing with young people for empowerment in Berlin, teaching English in Romania, and canvassing for worker justice in Washington, D.C. **This “experience wrapping” allowed students to deepen the reflective dimensions of their community-based work, while building skills-based knowledge to link theory and practice in real-time.**

Learn more at: ITEL.GEORGETOWN.EDU/PROJECTS/WISLER/

11
service learning
projects across
7 COUNTRIES

“The online course provides a structure around student experiences—a space for reflection to continually think about what they’re doing and what they’re learning out there in the world.”

— Andria Wisler

OPEN TRACK THEME: DESIGN & COLLABORATION

Preparing students for real-world problem-solving

Design thinking and effective collaboration are increasingly important skills for graduates entering today's workforce. In two recent ITEL projects, faculty implemented group projects asking students to design a product or experience with meaningful, real-world impact. These projects exposed students to many of the key elements of a design process, including collaborative ideation, prototyping, and sharing their work with a broader audience.

4 →

*prototype products
developed by students
for a nonprofit
organization*

Robert Thomas (McDonough School of Business) set out to better understand collaborative design for innovation among business students. In his six-week MBA pilot course, Thomas introduced two relatively new technologies to explore this topic: (1) a 3D printer to implement physical design prototypes from student group projects, which could then be evaluated by a panel of experts, and (2) experimental iPad software called Expansive that supported collaboration around an “endless” electronic whiteboard. Faculty observation indicated that **both technologies catalyzed deeper engagement and student learning**. In particular, the 3D prototyping project helped students to grasp the difficulty of bridging theory and real-life implementation.

Learn more at: [ITEL.GEORGETOWN.EDU/PROJECTS/THOMAS/](https://itel.georgetown.edu/projects/thomas/)

55 →

*students involved in the
Studio Collaborative project*

In a unique, multi-course project, **Maggie Little** (Philosophy), **Matthew Pavesich** (English), and **Francis Slakey** (Physics and Public Policy) created a collaborative studio space wherein students from all three courses worked together in teams to design a solution to a problem in the field of bioethics and science in the public interest. The three individual courses met separately to scaffold discipline-specific content in a more traditional course format; the remainder of the time was spent working in a highly resourced studio: the “EthicsLab,” where students learned design methodology to help bring to life products that provide real value in the world. Initial findings suggest that students found that **the collaborative environment was substantially supported and improved by the use of a custom-built site** (the “Digital Commons”), and in particular, by the site’s shared studio calendar and resource scheduling functionality.

Learn more at: [ITEL.GEORGETOWN.EDU/PROJECTS/LITTLE/](https://itel.georgetown.edu/projects/little/)

OPEN TRACK THEME: FLIPPING THE CLASSROOM

Creating flexible, independent learning through online materials

Building on the potential seen in early ITEL projects for improving student learning through flipping the classroom, additional funded projects have refined the flipping process and more thoroughly studied its effects on student learning. In many ITEL projects, faculty set out to rethink the way time was spent in and out of their courses, shifting activities outside of class to make better use of face-to-face time. Faculty leading these projects reported increases in student learning and student surveys indicated high levels of student satisfaction with the new materials created for these courses.

Donatella Melucci and **Louise Hipwell** (both from Italian) were faced with a challenge: even very interested students were opting not to take advanced Italian classes because of the intensive format, which meets in-person five days a week. With the goal of continuing to promote proficiency while increasing flexibility, they developed a hybrid-format Italian class, replacing two days of in-class instruction per week with online activities. **Students in the hybrid-format classes reached the same learning goals as students in traditional face-to-face format courses, and many reported that they appreciated the independent learning environment and flexibility of the hybrid format.** Melucci and Hipwell are now extending this project to encompass the next level of advanced Italian.


Learn more at: [ITEL.GEORGETOWN.EDU/PROJECTS/MELUCCI-HIPWELL/](https://itel.georgetown.edu/projects/melucci-hipwell/)

Carol Rogers (Economics) flipped her Principles of Macroeconomics course by creating lecture captures on complicated economic models, freeing up class time for Q&A sessions, working through problems, and discussions. Using Blackboard's "statistics tracking," Rogers could tell which students accessed the lecture capture content, and who completed the Blackboard assessments prior to class. Rogers found that **students who answered all topically-related questions correctly on the mid-term exam had on average more than three additional Lecture Capture views, compared to students who got five or more questions wrong.**

Learn more at: [ITEL.GEORGETOWN.EDU/PROJECTS/ROGERS/](https://itel.georgetown.edu/projects/rogers/)

"This project is encouraging us to look at other ways of making our intensive language classes accessible to more students."

— Donatella Melucci and Louise Hipwell



40%

class time "flipped"



98%

students who viewed lecture capture before final exam

ITEL COHORTS

Building community and support around focused technological innovation

In ITEL cohorts, groups of faculty meet multiple times over the semester to learn about instructional technologies—such as iPads or ePortfolios—and discuss ways in which they might incorporate these into their teaching. Thematic-based cohorts have emerged in ITEL as a sustainable and cost-effective way of supporting faculty exploration and experimentation with technology, while also creating an opportunity for faculty to learn from and share with their peers across different disciplines. To date, 81 unique faculty members have participated in nine thematic cohorts, with 102 courses serving as sites for innovation and implementation. Table 1 shows how many faculty have participated in each thematic cohort. A few cohorts, such as Deepening Discourse & Engagement with Tablet Computing, have been offered multiple semesters in a row. Some faculty repeated participation in a cohort in order to continue project work, or applied to participate in a new cohort in a subsequent semester. Below we feature projects from three of our recent cohorts.

Integrating Writing & Disciplinary Thinking (Spring 2014)

This ITEL cohort explored ways to leverage technology to help balance the demands of teaching content and writing, especially in light of the new Integrated Writing requirement for undergraduate students. Huaping Lu-Adler's (Philosophy) cohort project focused on developing a thorough peer review process utilizing Turnitin, a tool which is freely available to all Georgetown faculty members and which, unbeknownst to many, can facilitate anonymous peer-review. Students first submitted their drafts on Turnitin.com, which then were randomly and anonymously paired so that every paper received two reviews and each student reviewed two papers. **Student survey results indicated that the class, partly thanks to the integrated use of peer review, helped students improve their intellectual skills (100%), communication skills (88%), interpersonal skills (88%), and research skills (75%).**

Learn more at: ITEL.GEORGETOWN.EDU/COHORTS/WRITING/

ePortfolios for Integrative Learning (Spring 2015)

ePortfolios are digital environments where students can collect and curate their work. This cohort brought together faculty interested in ePortfolios to discuss approaches to integrating this tool into different courses and into the broader Georgetown curriculum. Josiah Osgood (Classics) and Alison Games (History) implemented ePortfolios as part of their Liberal Arts Seminar for first-year students.

102

Courses

81

Faculty Members

9

Cohorts

The ePortfolio platform allowed students to forge an intellectual community, as well as to synthesize and integrate the class readings, discussions, and field trips with their first-year experiences through informal writing and blogging.

Osgood and Games found that students particularly valued the opportunity to connect course readings with their extracurricular experiences.

Learn more at: ITEL.GEORGETOWN.EDU/COHORTS/EPORTFOLIO/

Global Future(s) Curriculum Studio (Fall 2015)

The Global Future(s) cohort encouraged faculty to create new curricular structures in order to immerse students in interdisciplinarity and provide opportunities to bridge theory and practice. As part of this cohort, Laurie King (Anthropology), Sherry Linkon (English), and Brian McCabe (Sociology) piloted a project to begin building out the infrastructure for an interdisciplinary program in Urban Studies. They identified several experiential learning opportunities, such as walking tours and film screenings, to serve as common experiences for students across their three courses. The instructors hoped that the cross-fertilization would deepen students' learning by encouraging them to see the interdisciplinary perspectives inherent in urban studies. **Through this pilot the faculty gained a clearer idea of the necessary structures and goals to make a cross-course collaboration successful, as well as developed a greater understanding of student interests and needs**—an important first step as the faculty plan further work in urban studies.

Learn more at: ITEL.GEORGETOWN.EDU/COHORTS/GLOBAL-FUTURES/

Table 1: Faculty Participation in ITEL Cohorts

COHORT NAME	NUMBER OF PARTICIPANTS
Deepening Discourse & Engagement with Tablet Computing	26
Engaging by Design: Games, Simulations, and Online Learning Modules	13
ePortfolios for Integrated Learning	7
Flipping the Classroom with Open Educational Resources (OERs)	15
Global Future(s) Curriculum Studio	12
Integrating Writing & Disciplinary Thinking	5
Student-Centered Learning through A Domain of One's Own	8
Using Technology to Educate the Whole Person	9
Writing and Design Studio	4
TOTAL	99*

*99 = total faculty in cohorts; 81 = unique faculty participating in cohorts

GEORGETOWNX

Modular designs facilitate personalized learning

GeorgetownX (GUX) MOOCs are designed with a variety of learners in mind. Open courses attract students with different motivations and levels of engagement; some participants are interested in obtaining a verified certificate of course completion for professional or educational gain, while other students are simply interested in expanding their knowledge of a particular subject. Our modular design approach supports both kinds of learners. Certificate-focused students can achieve content-based outcomes by completing all course topics and scoring highly on assessment questions and activities. Students who are interested in a more personalized curriculum can choose to complete only the topics of interest to them. This modular design allows us to address a diversity of learning needs among MOOC students. With each new MOOC launched or reiterated, we continue to take advantage of integrative learning outcomes, revenue-generating potential, and flexible approaches to skills development and paths to degrees, such as credit-hour adaptations, prerequisites to courses or programs, and professional credentials.

Learn more at: CNDLS.GEORGETOWN.EDU/PROJECTS/GEORGETOWNX/

Globalization's Winners and Losers launches as a self-paced MOOC

Between new launches and course reiterations, GeorgetownX is approaching twenty courses by the end of 2016. In order to maintain this scale, CNDLS is expanding its MOOC repertoire to include self-paced courses, where students can move through the lectures and materials as quickly or as slowly as they like, and can download a verified certificate from the edX dashboard when they reach a passing grade. Globalization's Winners and Losers: Challenges for Developed and Developing Countries launched in early 2016 as Georgetown's first self-paced MOOC. Although the structure allows students to work at their own pace, lead instructor Ted Moran has been pleased to find that "the participants in the self-paced version of Globalization are engaging with each other on substantive issues, and trading comments about their own professional experiences on our discussion boards."

6,797

GUX certificates
earned so far

140k

STUDENTS ENROLLED

12

GUX MOOCs

2016 COURSES

Preparing for the AP Physics C: Electricity and Magnetism Exam

High school students studying for Advanced Placement (AP) tests are a very specific MOOC learner group. This course is specifically designed to help students prepare for the high school Advanced Placement (AP) test Physics C: Electricity and Magnetism. Learners in this course use calculus to understand electrostatics, conductors, capacitors and dielectrics, electric circuits, magnetic fields, and electromagnetism. In contrast to other GUX MOOCs, where a very small percentage of students say they are taking the course for university credit, in the first run of AP Physics C, 59% of students said they were hoping to gain university-level course credit or course exemption. In 2016, the second iteration of this course is being led by Georgetown Physics faculty members Amy Liu and Patrick Johnson.

Quantum Mechanics for Everyone

Modeled on a non-majors science requirement course taught for many years at Georgetown, this MOOC teaches the conceptual ideas of quantum mechanics at a level that nonscientists can understand. The course employs a series of interactive computer simulations, initially piloted by James Freericks (Physics) as part of an ITTEL cohort project and the AP Physics MOOC, to help students gain a deeper understanding of the often counterintuitive workings of the quantum world and apply abstract mathematics to describe it. These same tutorials will become part of the Physics Department repository of online materials for use by on-campus students, and will be integrated into the second-year physics class on Relativity and Quantum Mechanics.

Sign Language Structure, Learning, and Change

This MOOC is intended for both deaf and hearing learners who want to learn more about the origins of signed languages and the evolution of American Sign Language (ASL). The lectures of this four-week course will be presented in ASL—along with voiceover by an interpreter—by Ted Supalla, Department of Neurology and the Center for Brain Plasticity and Recovery at the Georgetown University Medical Center. The course team is working to incorporate live discussions, facilitated by interpreters, between deaf and hearing learners. Topics will include the history of ideas about sign language, factors affecting sign language usage and learning, the history of ASL, and the origins of sign language grammar.

2016 GUx Releases

January 2016

Globalization's Winners & Losers: Challenges for Developed and Developing Countries (self-paced)

February 2016

AP Introductory Calculus-Based Physics: Electricity and Magnetism

March 2016

The Divine Comedy: Dante's Journey to Freedom, Part I

April 2016

Introduction to Bioethics

September 2016

Sign Language Structure, Learning, and Change

October 2016

Quantum Mechanics for Everyone

GEORGETOWNX: SPOTLIGHT ON DANTE

A three-part MOOC with a custom platform for contemplative reading

Spanning more than 16 months in planning, development, and course management, Georgetown's three Dante MOOCs, and the integral custom platform MyDante, represent a major collaborative effort between edX, CNDLS staff, and Georgetown faculty. Each five-week MOOC covers one of the canticas of Dante's *Divine Comedy: Inferno, Purgatorio, and Paradiso*.



The Platform: CNDLS extended a previously-developed custom platform called MyDante for the Dante MOOCs, in partnership with lead faculty member Frank Ambrosio (Philosophy). This platform facilitates student exploration of Dante's texts through four different reading modes that encourage a progressively deeper and more contemplative reading practice, incorporating features such as a rich image gallery, personal text annotation, and reflective journal entries.



Student Input and Course Iteration: Upon completion of the first two MOOCs (Dante's *Inferno* and *Purgatorio*), student evaluations and comments guided revisions to the course structure (e.g., extending the length of the course to allow for richer engagement) and to the MyDante platform (e.g., streamlining interactions with the edX platform and making it easier to engage in social interaction online). The third MOOC, *Paradiso*, closed in June 2015, and we are now in the process of evaluating the Dante MOOC trilogy and platform to understand how they can be further improved for a second iteration in the coming year.



In the Classroom: The expanded MyDante platform continues to be used in Frank Ambrosio's philosophy classes here on the Georgetown campus. While the original platform development was inspired by the needs of a single on-campus course, it is rewarding to see global audiences of MOOC students enjoying MyDante; at the same time, the on-campus students benefit from the enhanced technological developments that were designed for the MOOC.

RESEARCH HIGHLIGHT

A combination of learner performance metrics and qualitative content analysis is at the core of ongoing research on reflective engagement in the Dante MOOCs. Using a system of coding student journal entries as engaging with the text at **literal, metaphoric, reflective, or metacognitive levels**, a sample of 233 entries from the MyDante platform was coded for evidence of contemplative reading and then compared with graded peer assessments. **Those students who engaged in deeper contemplative reading performed better than the students with surface-level reading engagement.**



ABOVE: Deeper shades of blue indicate higher country-level student enrollment in Part I of Dante's Journey to Freedom. Enrolled students hailed from 89 countries, with the majority of students coming from the United States.

Learn more at: DANTE.GEORGETOWN.EDU

READING PERSONAL GUIDED SOCIAL Canto 18

26 I have set your table. From here on feed yourself,
Messo l'ho innanzi; omai per te ti ciba;
 for my attention now resides
ché a sì forte tutta la mia cura
 in that matter of which I have become the scribe.
quella materia ond' io son fatto scriba.

28 Nature's sublime and greatest minister,
La ministra maggior de la natura,
 who imprints Heaven's power on the world
che del valor del ciel la mondo impronta
 and in his shining measures out our time,
e col suo lume il tempo ne misura,

31 in conjunction with the place I note above,
con quella parte che sù si rammenta
 was wheeling through those spirals
congiunto, sì girava per le spire
 in which he comes forth earlier each day.
in che più tosto ognora s'appresenta;

Paradiso - Canto 18 of 33

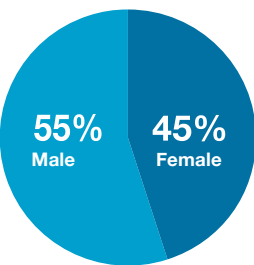
THOMAS ANSWERS TO DANTE'S QUESTION
 Platen Manuscript

ABOVE: Screenshot of the custom-built MyDante platform used for reading and annotating *The Divine Comedy*.

GEORGETOWNX: BY THE NUMBERS

Using edX enrollment data, along with responses from surveys CNDLS administers before and after each course, we are gaining a clearer picture of our MOOC students, including who they are and why they are taking our courses. GeorgetownX MOOCs have attracted over 140,000 students from 185 countries. The students are 55% male and 45% female, although some courses, such as Introduction to Bioethics, skew female (66% female vs. 34% male). The majority of our students (68%) are under the age of 35, have earned a Bachelor's Degree or higher (70%), and have native or full professional proficiency in English (70%). Over 85% of students say they are taking the course to gain general knowledge and skills, and most students (68%) expect to complete all activities and receive a certificate. Students who completed the post-course survey reported high levels of satisfaction with their course experiences, ranging from the clarity of communication to the quality of the visual design.

Figure 1: Gender*



*Based on edX enrollment data.
 **Based on survey data.

Figure 2: Top 10 Countries of Residence and Birth**

COUNTRY OF RESIDENCE	COUNTRY OF BIRTH
United States of America	United States of America
India	India
United Kingdom	United Kingdom
Canada	Spain
Spain	Brazil
Brazil	Canada
Mexico	Mexico
Australia	Nigeria
Nigeria	Germany
Germany	Colombia

Figure 3: Reason for Enrolling**

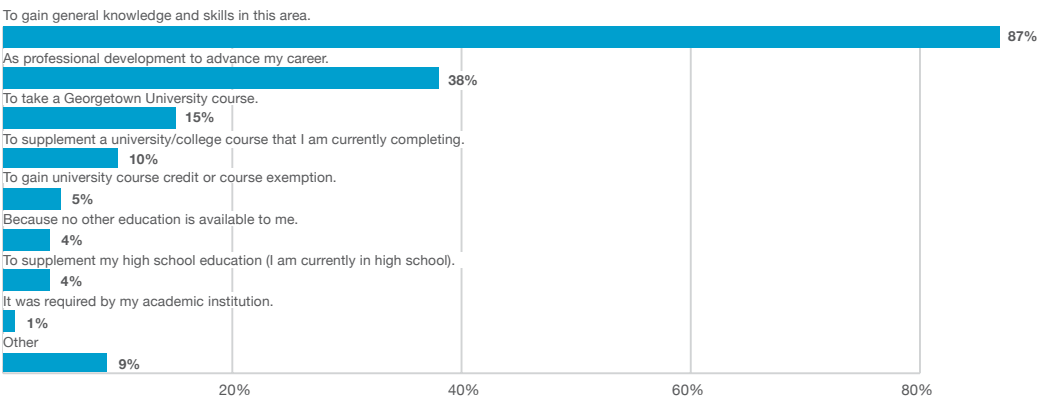


Figure 4: English Fluency**

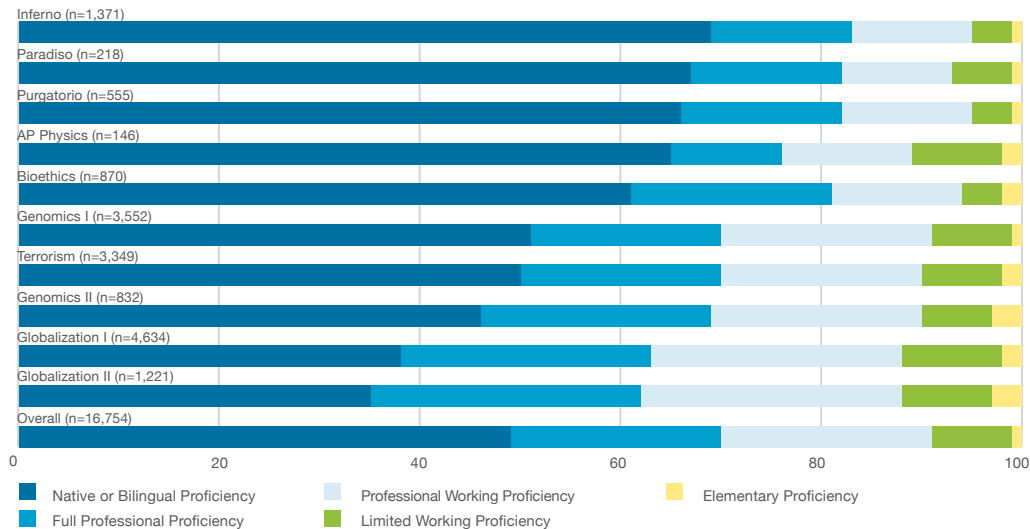


Figure 5: Course Experience**

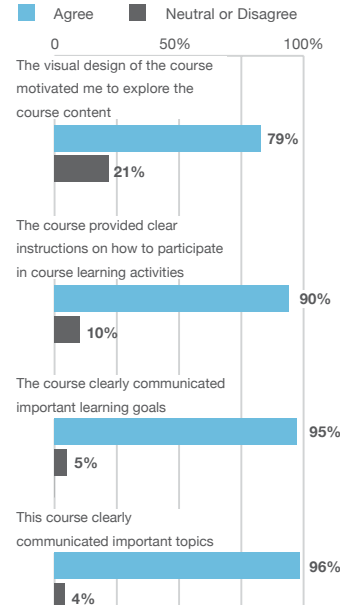


Figure 6: Age*

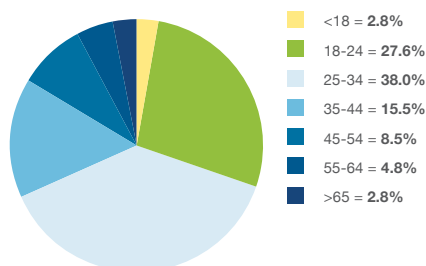


Figure 7: Educational Attainment*

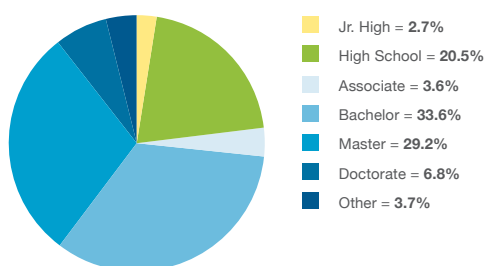


Figure 8: Expectations for Completion**





ABOVE: Georgetown University Provost Robert Groves with other panelists at the 2015 edX Global Forum

EDX GLOBAL FORUM

Georgetown University and CNDLS hosted edX's annual Global Forum on campus and in Washington, D.C., November 8-10, 2015.

This event brought together over 360 edX partner members from around the world to discuss online learning and collaboratively explore emerging trends in online education. Highlights included remarks by Georgetown Provost Robert Groves and by United States Chief Technology Officer Megan Smith, which sparked discussions on such topics as how data analysis can inform MOOC design and what role MOOCs can play in hybrid course formats.

PARTNER SPOTLIGHT: GEORGETOWN UNIVERSITY LIBRARY

The Georgetown University Library has been an integral partner in the Initiative for Technology-Enhanced Learning. By proactively forming collaborative partnerships and leading in the provision of services and technology, the Library has played an essential role in the successful execution of this major initiative.



PROPOSAL EVALUATION

Review and evaluation of ITEL proposals is an important part of the competitive grant selection process. Library staff evaluate preliminary and final proposals from the perspectives of library impact, technology resources, production needs, and content availability.



COPYRIGHT

The Library's Copyright and Scholarly Communication group supports ITEL faculty by providing information about how digital content can be made available to students in both on-campus courses and MOOCs. GeorgetownX MOOCs, for example, have required over 6,500 pages of reading material, as well as film and artwork. Most of these works are copyrighted, and the library must negotiate with rights holders for permission to make them available to MOOC students.

Learn more at: LIBRARY.GEORGETOWN.EDU/COPYRIGHT



VIDEO PRODUCTION AND TECHNOLOGY INSTRUCTION

The Library's Gelardin New Media Center has contributed significant support for ITEL projects that depend on video production, student training in particular technologies, or access to essential equipment for projects. In Robert Thomas' Open Track project using 3D printing and prototyping technology, Gelardin staff worked directly with students to perfect their design ideas and to transform rough sketches or clay models into 3D digital files and ultimately into objects printed on the Makerbot 3D printer.

Learn more at: LIBRARY.GEORGETOWN.EDU/GELARDIN



ARCHIVING DIGITAL CONTENT

The Library has assumed responsibility for archiving the digital products created through ITEL so that the content can be available to current and future students and faculty, both at Georgetown and globally. Content ranging from MOOC videos and online course material to games designed for enhanced course engagement will be stored in the Library's instance of Digital Georgetown.

Learn more at: LIBRARY.GEORGETOWN.EDU/DIGITALGEORGETOWN

APPENDIX A: PROJECT EVALUATION METHODOLOGY

This appendix describes the methodology applied to project evaluation of 17 campus-based Open Track awards as part of the second, third, and fourth rounds of ITEL. (Round 1 was covered in the 2014 ITEL Report.) Appendix B summarizes and presents the data from this evaluation. Most similar to the “Design and Implementation Grants” in Round 1, Open Track projects were introduced in Round 2 to better support innovation, scalability, and transformation at both the course and curricular level. Open Track projects were awarded an average of \$28,000 each and were expected to complete design, implementation, data collection, and analysis within one year. Table 1 below indicates the number of projects per round included in this evaluation, as well as the year during which the projects took place.

Table 1: Round 2, 3, and 4 Projects included in Evaluation

ITEL AWARD ROUND	YEAR	NUMBER OF PROJECTS
Round 2	2014	5
Round 3	2014-2015	10
Round 4	2015	2
TOTAL		17

Methodology and data sources

Evaluation of projects was conducted based on CNDLS staff analysis of the successes, challenges, and findings of each project. In addition, each project report was scored by Hanover Research, a third-party, external research firm. ITEL projects were structured to include (1) a hypothesis about the effect of the experiment on student learning, (2) data collection to shed light on the hypothesis, and (3) results at the individual project level. Project data included pre-post measure designs, Blackboard statistics tracking, and grade and performance analyses, among other metrics. Research and assessment designs of the projects varied based on the scope, type of intervention, and disciplinary orientation of the faculty involved, and thus were not standardized across projects. Many of these projects have found promising results, which have been reported upon at on-campus and international conferences, as well as through research publications. Projects have also generated inquiries from textbook companies and have formed the basis of research grant proposals.

“I am very intrigued by the data that my experiment generated. I would like to quantify how (measurable) student engagement leads to good outcomes. This strikes me as the beginning of publishable work for me.”

— Carol Rogers

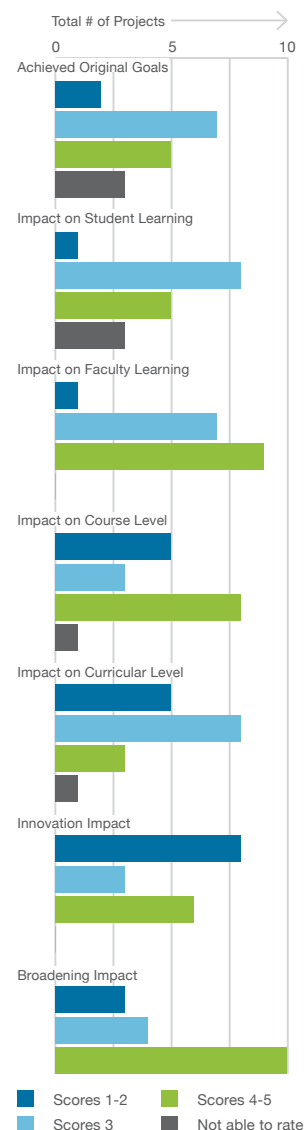
Hanover Research scored the project reports using seven criteria to provide an objective evaluation of project successes and impact. Each project was assigned a rating score from 1 to 5 on each criterion (See Table 2). Figure 1 shows the distribution of scores across the projects. A full summary of the data can be found in Appendix B.

Table 2: Evaluation Criteria as Described and Applied by Hanover Research

CRITERIA	DESCRIPTION
The extent to which the project met its original objectives	This metric was evaluated solely on comparison with the objectives stated in the proposal and does not take into account other factors such as the perceived difficulty of implementation. Throughout the scoring process, this metric was highly correlated with scores for impact on student learning, as maximizing impact in this area was the objective of the majority of proposals. Programs were marked down for failing to roll out the full range of proposed initiatives and in cases where these initiatives failed to support primary objectives.
The extent of the project's impact on student learning	Nearly all projects aimed to impact student learning in some way, though evaluation of that impact varied greatly. In scoring, preference was given to initiatives with documented improvements in student performance or knowledge rather than qualitative descriptions by students of the initiative's utility.
The extent of the project's impact on faculty learning about teaching practice or assessment	Scoring of this metric depended largely on the degree of reflection and robustness of self-evaluation on the part of the principal investigator. Higher scores were given to PI's who expressed interest in investigating ways to improve technological innovation in the future.
The extent of the project's impact on teaching with technology at an individual course level	This metric was evaluated based on whether or not faculty intended to use a similar program again in the same course. Higher scores were given to initiatives that would significantly impact or change the conduct of future iterations of the course in question. Preference was also given to faculty who expressed a desire to tweak and improve the initiative.
The extent of the project's impact on teaching with technology at a curricular level (impact on multiple linked courses)	Impact at a curricular level was evaluated strictly on the description of future application in other courses with other faculty, and did not take into account the potential for such an innovation to positively impact those courses.
The extent to which the project explores new territory with technologies for teaching (Innovation impact)	Innovation impact, along with the following metric (broadening application), is not a value-based measurement but rather a reflection of the technology's present use in education contexts. Projects that used non-traditional technology in the classroom received higher scores in this area than projects that leveraged known technology and methods, such as flipped classrooms.
The extent to which the project applies a known technology in a new teaching context at Georgetown (Broadening application)	This metric was typically graded as the inverse of the above metric, innovation impact. Initiatives receiving high scores in this area were projects that utilized technologies already common in education contexts.

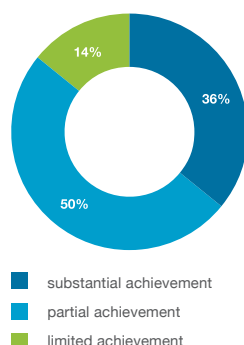
*Rating scale descriptors developed by Hanover Research for scoring ITTEL projects are as follows: 1=no evidence at all of having met objective or negative impact; 2=weak evidence for having met objective in a very general sense; 3=met most objectives and documented evidence; 4=substantial impact and strong documentation; 5=transformative impact.

Figure 1: Distribution of Project Scores



APPENDIX B: SUMMARY OF DATA

Figure 1: Achievement of Project Goals

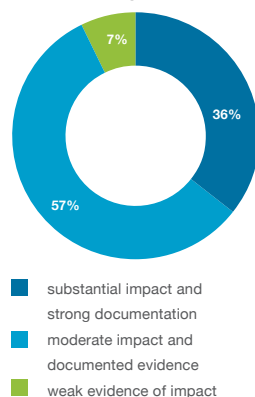


Achievement of project goals

Overall, 86 percent of projects substantially or partially achieved their project goals (See Figure 1). Five (36%) of these projects substantially achieved their project goals, with another seven (50%) partially achieving their objectives. Two projects (14%) achieved only limited objectives.* As in Round 1, many projects encountered challenges and setbacks that impacted complete success in reaching their goals. For instance, one project terminated early because of faculty turnover, insufficient time, and a challenging technical learning curve. Another project generated interesting results, but these were only partially related to the original objectives.

[*Only 14 of the 17 projects evaluated had enough evidence in their reports to rate achievement of project goals.]

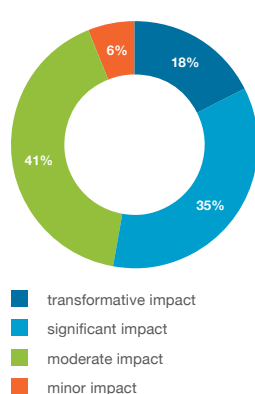
Figure 2: Impact on Student Learning



Impact on student learning

Overall, 93% of projects demonstrated substantial or moderate impact on students, as concluded through documentation in the project report (See Figure 2). Of these, 36% had substantial impact and 57% had a moderate impact on student learning. Only one project did not impact student learning; this was the same project that terminated early due to other challenges and did not reach the point of data collection. This compares favorably to Round 1 projects, where 35% of the projects struggled to demonstrate impact on student learning.

Figure 3: Impact on Faculty Learning



Impact on faculty learning

In 16 out of 17 instances (94%), conducting the ITEL project had a moderate, substantial, or transformative impact on faculty (See Figure 3). In the cases of transformative impact, faculty:

- learned to better focus class time on providing students with concrete, useful skills;
- demonstrated significant learning about the process of online education, and the comparative advantages of online vs. in-person approaches;
- learned about student motivation, use of Blackboard data, and module design.

Additionally, in these cases, faculty demonstrated a strong intention and significant plans to use what they learned in future research and classes.

Impact on course and curricula

ITEL projects typically focus on redesigning at the course level or at the curricular level. **Twelve projects (71%) were found to focus their impact at the course level. Eleven projects (65%) were found to focus at the curricular level** (See Figure 4). Although it was not expected that individual projects would have both course and curricular impact, two projects appear to focus equally at both levels.

Impact on broadening and innovation

Typically, Open Track projects were either applying a common educational technology in a new way, or were innovating by utilizing a technology not traditionally used in education. Projects applying common educational technologies were classified as having a “broadening” effect as they were adding to the knowledge and practice of how this technology can be used best at Georgetown. Projects focused on developing a new technology or adapting one from another field were classified as having an “innovation” effect because of the novel application. **Fifty-three percent of the projects had primarily a broadening effect, 18% had primarily an innovating effect, and 29% had both** (See Figure 5).

Impact by project type

The evaluated projects were grouped and compared in order to illuminate any patterns across project types. **Flipping projects had the highest average scores on student learning (3.6) and impact at the course level (3.6). Telecollaboration projects scored the highest on broadening impact (4.0), while the Tablet group received the highest scores for innovation impact (4.3). The projects where students themselves learned to use new technologies scored most highly on impact on faculty learning (4.3)** (See Figure 6). Note that only 15 of the 17 projects were able to be grouped and thus the number of projects per group is quite small.

Figure 4: Course and Curricular Impact

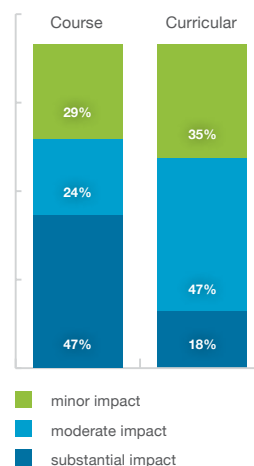


Figure 5: Broadening and Innovation Impact of Project Designs

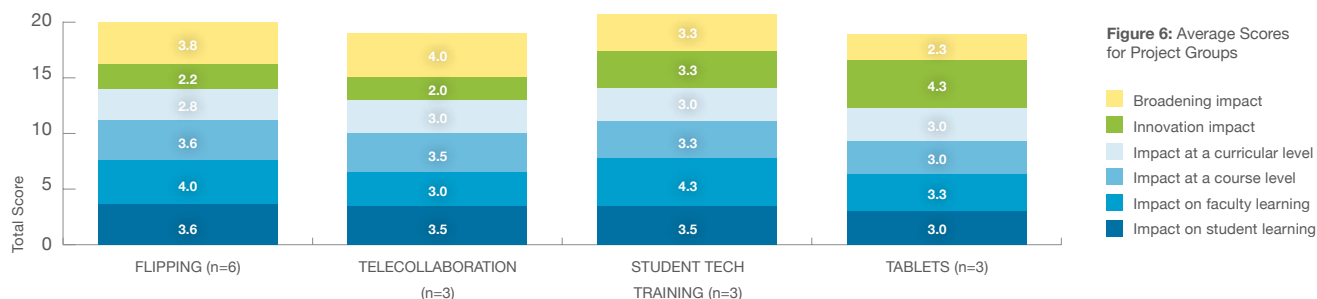
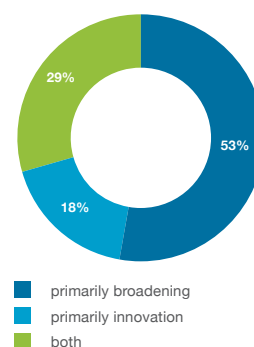


Figure 6: Average Scores for Project Groups

APPENDIX C: PUBLICATIONS & PRESENTATIONS

PUBLICATIONS

Cerezo, L. & Caras, A. (forthcoming). Effectiveness of guided induction versus deductive instruction on the development of complex Spanish “Gustar” structures: An analysis of learning outcomes and processes. *Studies in Second Language Acquisition*.

Davis, D., Hanacek, J., Myers, A., Mulroney, S., Pennestri, S., & Vovides, Y. (2015, July). Capturing, tracing, and visualizing the spread of technology-enhanced instructional strategies. *EDULEARN 15 Proceedings: 7th International Conference on Education and New Learning Technologies* (1020-1028). Barcelona, Spain: IATED Academy.

Demaree, D., Kruse, A., Pennestri, S., Russell, J., Schlafly, T., & Vovides, Y. (2014). From planning to launching MOOCs: Guidelines and tips from GeorgetownX. In Vincenti, Giovanni, Bucciero, Alberto, Vaz de Carvalho, Carlos (Eds.), *E-Learning, E-Education, and Online Training* (68-75). Bethesda, MD: Springer International Publishing.

Leow, R. (2015). *Explicit learning in the L2 classroom: A student-centered approach*. New York, NY: Routledge.

Maloney, E., & Ambrosio, F. (2015). MyDante: Contemplative reading and hybrid technologies. In C.D. Kloos, P.J. Muñoz-Merino, R.M. Crespo-García, and C. Alario-Hoyos (Eds.), *Trends in digital education: Selected papers from EC-TEL 2015 workshops CHANGE, WAPLA, and HybridEd*.

Serafini, E., & Pennestri, S. (2015). Clicking in the Second Language (L2) Classroom: The Effectiveness of Type and Timing of Clicker-based Feedback in Spanish L2 Development. In Leow, R., Cerezo, L., & Baralt, M. (Eds.), *A Psycholinguistic Approach to Technology and Language Learning*. (219-242). Boston, MA: De Gruyter Mouton.

Suarez-Quian, C. (2014). *All-in-one anatomy exam reviews: Vol. 1. The back & upper limb*. iBooks.

Suarez-Quian, C. (2014). *All-in-one anatomy exam reviews: Vol. 2. The thorax*. iBooks.

Vovides, Y. Youman, T., Arthur, P., Davis, D., Ayo, E., Pongsajapan, R., McWilliams, M., & Kruse, A. (2015, March). LAK15 Case Study 2: Examining learners’ cognitive presence in Massive Open Online Courses. *Learning Analytics Review*.

Whitney, J., Mulroney, S., Barbee, P., & Myers, A. (2013). Use of lecture capture technology in a medical school environment. *The Advisor Online*, 33.1.

PRESENTATIONS

Baynes, B., Schoeninger, A., & Walter, R. (2014, June). *MOOCs and me: Georgetown’s experience with edX*. Presented at the New Media Consortium Summer Conference, Portland, OR.

Baynes, B. (2015, August). *MOOCs and libraries: A brewing collaboration* [Webinar]. In the National Information Standards Organization (NISO) Webinars.

Cunningham, D. (2015, November). *Leveraging tablet technology for oral proficiency in German*. Presented at the American Council on the Teaching of Foreign Languages (ACTFL) Annual Convention, San Diego, CA.

Demaree, D., Garr, W., Rostain, T., McWilliams, M., Salah, J., Gaston, T., & Church, S. (2014, October). *Developing a robust design strategy for creating an effective educational game: A collaboration of faculty, learning designers, and game developers*. Presented at The International Society for the Scholarship of Teaching and Learning Annual Conference, Quebec City, Canada.

Demaree, D. (2015, July). *GeorgetownX goes to high school: AP Physics C: Electricity & magnetism*. Presented at the American Association of Physics Teachers Summer Meeting, College Park, MD.

Demaree, D., Garr, W., & Church, S. (2014, July). *The intersection of learning design and game design: A robust strategy for creating effective educational games*. Presented at The Physics Education Research Conference, Minneapolis, MN.

Gordon, N. (2014, May). *Flipping the classroom*. Presented at the Teaching, Learning & Innovation Summer Institute, Georgetown University, Washington, D.C.

Haddad, B., Russell, J., Pennestri, S., Demaree, D., Tan, M., & Peshkin, B. (2014, October). *Changing the landscape of genomics education through a Massive Open Online Course (MOOC): Genomic medicine gets personal*. Presented at the American Society of Human Genetics Annual Meeting, San Diego, CA.

Harbert, B., Levinson, A., Suarez-Quian, C., & Uren, A. (2014, May). *Tablet/mobile computing panel*. Presented at the Teaching, Learning & Innovation Summer Institute, Georgetown University, Washington, D.C.

Janssens, P., Gustafson, N., & Garr, W. (2014, April). *Toward a partial hybrid curriculum for Spanish lower level courses*. Presented at the Conference on Language, Learning, and Culture, Virginia International University, Fairfax, VA.

Leow, R. (2015, April). *Effects of a psycholinguistically-motivated educational video game on L2 learning outcomes and processes: the case of the complex Spanish ‘Gustar’ constructions*. Presented at the Annual Meeting of Graduate Portuguese and Hispanic Symposium (GRAPHSY) Conference, Washington, D.C.

Leow, R. (2015, March). *E-tutors, cognitive processes, and L2 development*. Presented at the Annual Meeting of the American Association of Applied Linguistics (AAAL), Toronto, Canada.

Leow, R. (2014, October). *Promoting more robust L2 Learning: One psycholinguistic-based CALL sample*. Presented at the Annual Meeting of the Second Language Research Forum (SLRF) Conference, Columbia, SC.

Leow, R. (2015, July). *Promoting robust learning in the foreign language classroom*. Presented at the annual meeting of the American Association of Teachers of Spanish and Portuguese (AATSP) Conference, Denver, CO.

Leow, R., Janssens, P., Gustafson, C., Garr, W., & Caras, A. (2014, April). *Using CALL for more robust L2 learning: A psycholinguistic approach*. Presented at the Conference on Language, Learning, and Culture, Virginia International University, Fairfax, VA.

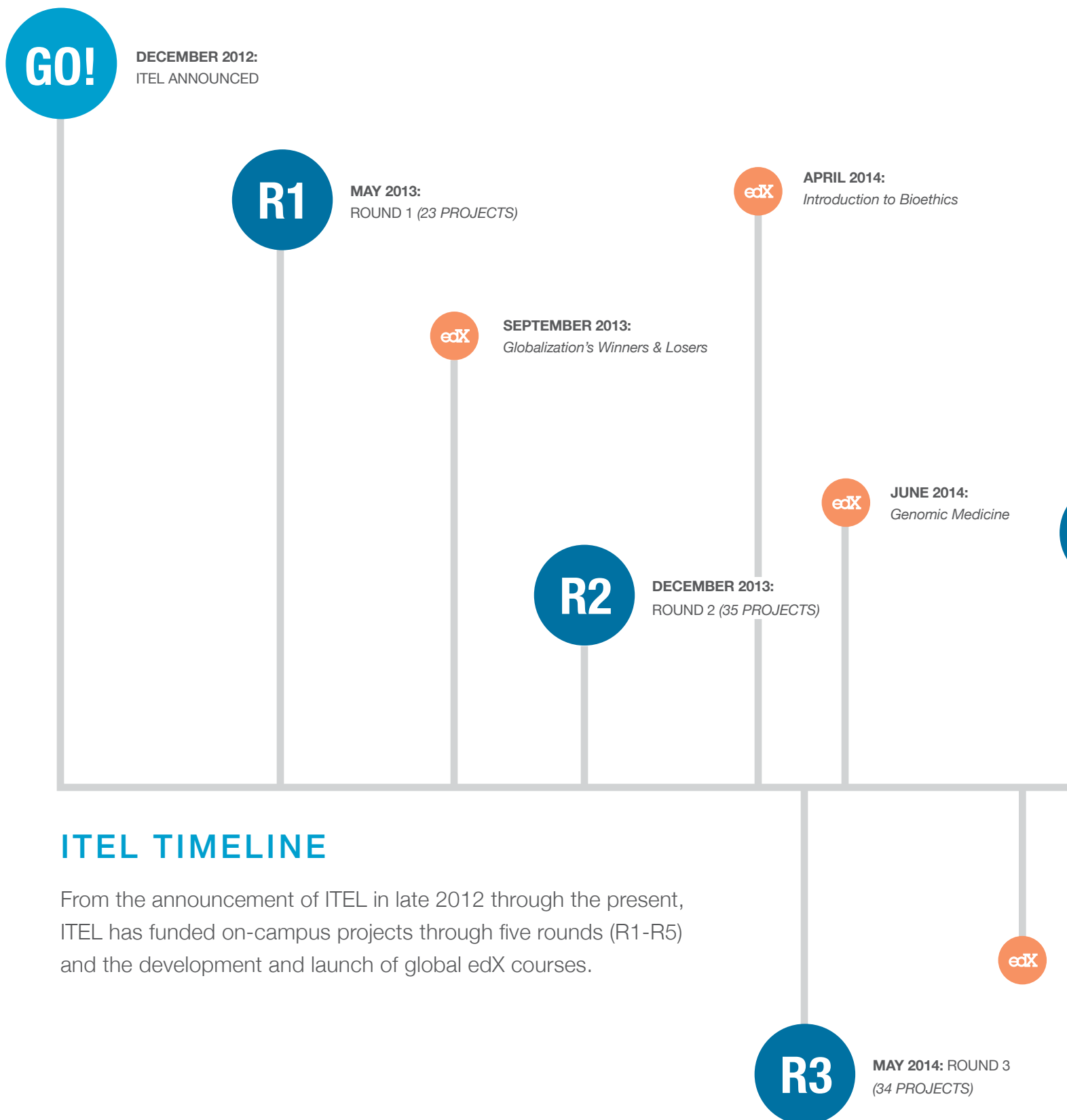
Leow, R. & Caras, A. (2014, May). *Foreign language learning and gaming*. Presented at the Teaching, Learning & Innovation Summer Institute, Georgetown University, Washington, DC.

Leow, R., Cerezo L., & Moreno N. (2015, July). *Are tasks at all possible in fully online language learning? Introducing talking to Avatars and the Maze Game*. Presented at the Annual Computer-Assisted Language Learning (CALL) Conference, Universitat Rovira i Virgili, Tarragona, Spain.

Lubkin, J. & Screen, A. (2014, April). *Effectively flipping an ESL grammar class: An action research project*. Presented at the Conference on Language, Learning, and Culture, Virginia International University, Fairfax, VA.

Maloney, E. (2016, January). *MyDante: Contemplative reading online*. Presented at the Modern Language Association, Austin, TX.

- Maloney, E.** (2015, September). *The impact of MOOCs*. Presented at HybridEd 2015, Toledo, Spain.
- Maloney, E.** (2015, September). *New approaches to technology-enhanced learning*. Presented at EdCrunch 2015, Moscow, Russia.
- Maloney, E.** (2015, September). *Technology-enhanced learning: Silver bullet or challenge to learning*. Presented at EdCrunch 2015, Moscow, Russia.
- Maloney, E.** (2014, October). *Catalyst for change: Experimentation in technology-enhanced learning*. Presented at the University of Texas, Arlington, TX.
- Maloney, E.** (2014, June). *Experimenting with Technology-Enhanced Learning*. Presented at the edX Global Forum, Delft, The Netherlands.
- Maloney, E., & Ambrosio, F.** (2015, September). *MyDante: Contemplative reading in MOOCs*. Presented at HybridEd 2015, Toledo, Spain.
- Maloney, E., & Debelius, M.** (2016, February). *New designs in teaching and technology-enhanced learning*. Presented at the Association of Catholic Colleges and Universities, Washington, D.C.
- Martin, S., Pennestri, S., Russell, J., Baynes, B., & Vovides, Y.** (2015, April). *Our migration experience to an online environment: Challenges, processes, outcomes*. Presented at the Emerging Technologies for Online Learning International Symposium, Dallas, TX.
- Melucci, D.** (2015, March). *Designing a hybrid format for third semester Italian: Methods and outcomes*. Presented at the American Association for Italian Studies Conference, Boulder, CO.
- Melucci, D. & Hipwell, L.** (2015, November). *Creation of hybrid format for second-year Italian language courses*. Presented at the American Council on the Teaching of Foreign Languages Annual Convention, San Diego, CA.
- Meyer, O. & Lovett, M.** (2014, July). *Using Carnegie Mellon's Open Learning Initiative (OLI) to support the teaching of introductory statistics: Experiences, assessments, and lessons learned*. Presented at the 9th International Conference on Teaching Statistics, Flagstaff, AZ.
- Meyer, O. & Patel, P.** (2014, July). *Using the Open Learning Initiative (OLI) to support teaching statistics to international politics students*. Presented at the 9th International Conference on Teaching Statistics, Flagstaff, AZ.
- Mulroney, S., Whitney, J., & Myers, A.** (2015, March). *Use of a learning management system and related technology to improve physiology classroom teaching*. Presented at Experimental Biology (EB), Boston, MA.
- Myers, A., Rostain, T., & Smith, L.** (2014, May). *Portable practices across our campuses*. Presented at the Teaching, Learning & Innovation Summer Institute, Georgetown University, Washington, D.C.
- Myers, A., Mulroney, S., & Stahl, C.** (2014, June). *Technology enhanced learning and flipped classroom exercises in physiology*. Presented at the Center for Innovation and Leadership in Education (CENTILE) Colloquium for Educators in the Health Professions, Georgetown University, Washington, D.C.
- O'Neil, R., Pongsajapan, R., Schoeninger, A., & Vovides, Y.** (2014, May). *Stories and insights from the Globalization MOOC*. Presented at The Teaching, Learning & Innovation Summer Institute. Georgetown University, Washington, DC.
- Pankova, M.** (2015, July). *What can the analysis of discourse structure and appraisal choices in online course-based chats by advanced foreign language learners and native speakers tell us about telecollaboration as a venue for intercultural and linguistic learning?* Presented at the International Systemic Functional Congress (ISFC), Aachen, Germany.
- Park, T.** (2015, June). *Improving self-study quizzes with answer feedback designs*. Presented at the Center for Innovation and Leadership in Education (CENTILE) Colloquium for Educators in the Health Professions, Washington, D.C.
- Patterson, R., Tilan, J., & Trester, A.** (2014, May). *Using technology to educate the whole person panel*. Presented at the Teaching, Learning & Innovation Summer Institute, Georgetown University, Washington, D.C.
- Pennestri, S. & Syverson, E.** (2015, June). *Using simulations to enhance teaching in physician-patient communication*. Presented at the Center for Innovation and Leadership in Education (CENTILE) Colloquium for Educators in the Health Professions, Washington, D.C.
- Riley, J., Olson, T., & Elmendorf, H.** (2015, January). *Panel discussion: How it can be done: Making well-being a core element of institutional purpose*. Presented at the Association of American Colleges and Universities (AAC&U) Annual Meeting, Washington, D.C.
- Screen, A. & Lubkin, J.** (2015, March). *Teacher and student perspectives on learning in flipped grammar course*. Presented at the TESOL International Convention and English Language Expo, Toronto, Canada.
- Screen, A. & Lubkin, J.** (2014, March). *Flipping a grammar class: What, why, and how?* Presented at the TESOL International Convention and English Language Expo, Portland, OR.
- Sigman, B., Selvanadin, M., Garr, W., Pongsajapan, R., & Bolling, K.** (2014, November). *Teaching how to integrate real time big data analysis and visualization for better decision making*. Presented at the Annual Decision Sciences Institute Conference, Tampa, FL.
- Syverson, E., Russell, J., & Pennestri, S.** (2014, June). *Using video simulation to enhance physician-patient communication*. Presented at the New Media Consortium Conference, Portland, OR.
- Uren, A.** (2015, June). *Using social media to teach gross anatomy in a large class*. Presented at the 2015 Center for Innovation and Leadership in Education (CENTILE) Colloquium for Educators in the Health Professions, Georgetown University, Washington, D.C.
- Vovides, Y., McWilliams, M., Pongsajapan, R., Youmans, T., Arthur, P., & Davis, D.** (2015, March). *Examining learners' cognitive presence through linguistic analysis in Massive Open Online Courses (MOOCs)*. Presented at the 5th International Learning Analytics & Knowledge Conference, Poughkeepsie, NY.
- Wardzala, K., & Stephen, B.** (2014, February). *DIVE: A four-step framework for creating meaningful short-term experiences abroad*. Presented at the Workshop on Intercultural Skills Enhancement, Winston Salem, NC.
- Whitney, J., Myers, A., & Mulroney, S.** (2015, June). *Using self-directed learning (SDL) workshops for flipped classrooms*. 2015 Center for Innovation and Leadership in Education (CENTILE) Colloquium for Educators in the Health Professions, Georgetown University, Washington, D.C.
- Yarden, R., LaRocque, J., & Gusev, Y.** (2015, June). *In-class immersion of 'big data' technologies to improve students' understanding of genomic instability and systems biology*. Presented at the 2015 Center for Innovation and Leadership in Education (CENTILE) Colloquium for Educators in the Health Professions, Georgetown University, Washington, D.C.

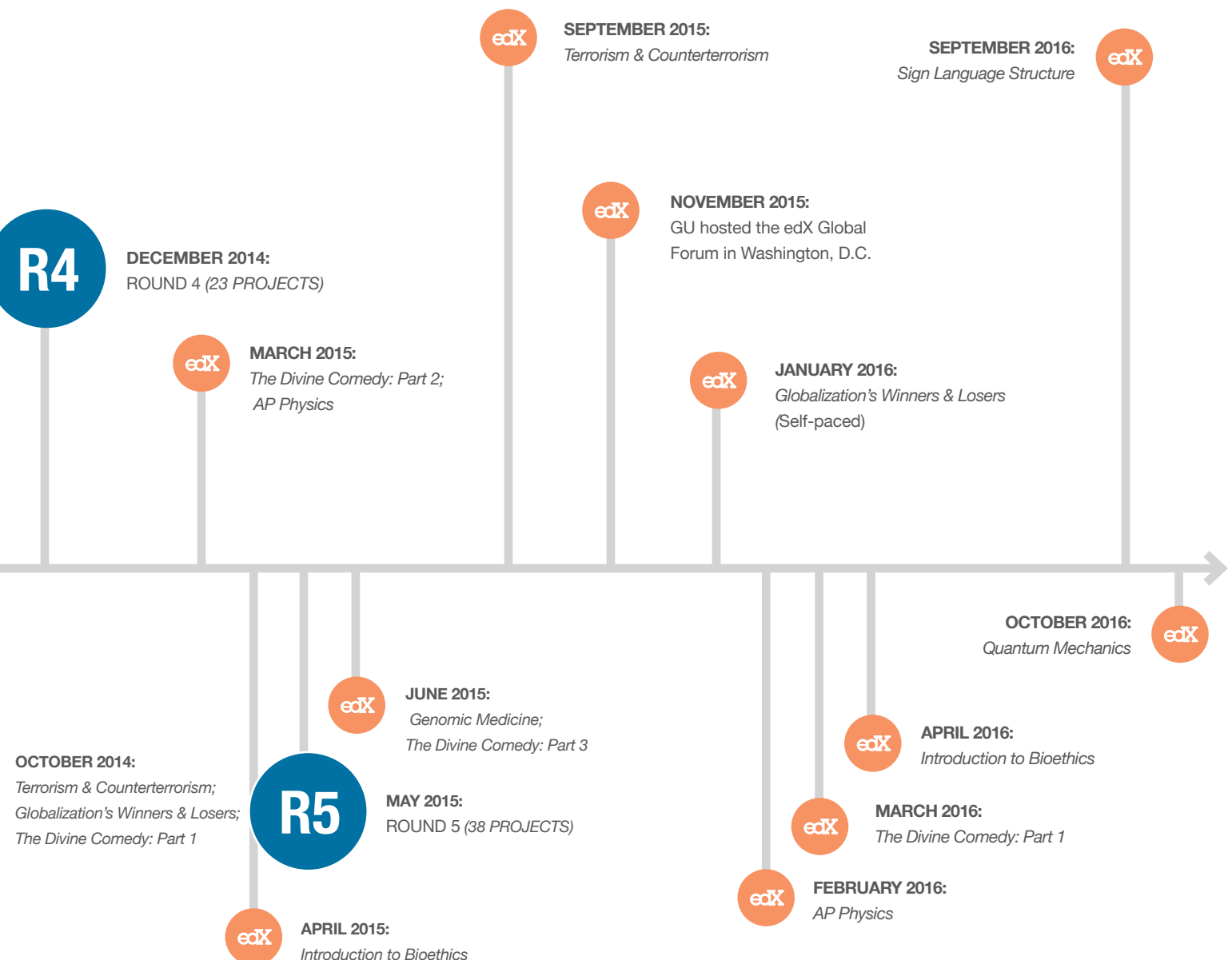


ITEL TIMELINE

From the announcement of ITEL in late 2012 through the present, ITEL has funded on-campus projects through five rounds (R1-R5) and the development and launch of global edX courses.

ABOUT CNDLS

Since 2000, the Center for New Designs in Learning and Scholarship (CNDLS) has supported faculty and graduate students with tools, resources, and opportunities for new learning environments. We began with a mission to bridge a historic gulf between pedagogy and technological advances, and today CNDLS integrates a teaching and learning center with the latest educational technology. Our team of experienced educators facilitates a broad-based program that promotes discovery, engagement, and diversity in an ever-expanding conception of learning.





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**Center for New Designs in
Learning & Scholarship (CNDLS)**

Georgetown University
3520 Prospect St. NW, Suite 314
Washington, DC 20057