

ISSUE 4

the prospect

A publication of the Center for New Designs in Learning and Scholarship

TEACHING,
LEARNING, &
INNOVATION

CNLS

CENTER FOR NEW DESIGNS IN
LEARNING & SCHOLARSHIP

GEORGETOWN
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This year's Teaching, Learning, & Innovation Summer Institute (TLISI) will bring together faculty across all campuses to learn about new technologies, to innovate with new pedagogical approaches, and to challenge how we think about teaching and learning at Georgetown. Faculty will discuss course design in the context of changing needs and expectations in higher education. We will address a broad range of questions and issues, from the best use of new technologies to engaging students more deeply in the consideration of diversity.

TLISI

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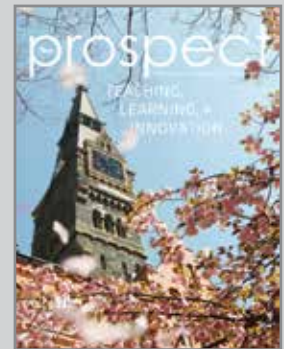
the prospect

We are pleased to present this issue of *The Prospect*, a CNDLS publication designed to highlight innovative teaching practices at Georgetown. This fourth issue features the inventive work that continues to emerge around the Initiative on Technology-Enhanced Learning and reflects the university's aim to lead a national conversation on designing the future of higher education. We invite you to explore our website (cndls.georgetown.edu), where you can learn more about our mission, major projects, and services for teaching and learning.

If you missed our previous issues, you can find them at
CNDLS.GEORGETOWN.EDU/PUBLICATIONS



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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LETTER FROM THE EXECUTIVE DIRECTOR

It is with great pleasure that I present to you the fourth issue of *The Prospect*, the semiannual publication from the Center for New Designs in Learning and Scholarship.

This past academic year has been an especially rewarding one. We've begun to see the payoff of all the hard work on the Initiative on Technology-Enhanced Learning (ITEL). Since our last issue, CNDLS has been busy working alongside faculty to design and implement over 60 individual technology-enhanced learning projects, including six Massive Open Online Courses (MOOCs) and a number of collaborative projects that cut across the boundaries of discipline and school. As this issue goes to press, we are excited to see nearly a dozen round one ITEL awardees completing the evaluation phase of their projects, and we look forward to sharing with you the valuable insights as they emerge.

In this issue, you may notice that a number of the articles (pages 6-7, 8-9, 12-13, and 16-17) profile faculty projects that experiment with online learning activities. As efforts and conversations at Georgetown advance the strategic goal of ITEL to "extend knowledge, actively, into the world," we are responding to a growing interest across campus to commit further time to researching, designing, and building models for fully online courses. While the portfolio of projects with which we are working remains richly varied, we think it is an important moment to highlight the work being done in this increasingly critical area.

As part of this exploration of online learning, we continue to experiment with MOOCs through our partnership with edX, and we are pleased to share with you some of our initial findings from the first GeorgetownX course offered, *Globalization's*

Winners and Losers (pages 8-9). Very soon, learner data from *Introduction to Bioethics* and *Genomic Medicine Gets Personal* will become available as well, and will deepen the insights afforded by our ongoing research on MOOCs. In addition to MOOCs and Open Track ITEL projects that we are supporting, we are in the final weeks of facilitating our first round of faculty cohorts, inspired by research literature on communities of practice and funded through the second ITEL call. You can read more about the cohorts in "Building Scale and Insight with Faculty Cohorts" (pages 14-15).

We are at a wonderful moment in higher education with a renewed intensity on teaching and ongoing attempts to understand how technology impacts how we learn. Here at CNDLS, we provide a space for reflective experimentation, one that we hope will help all of us at Georgetown better prepare for the present and future of higher education. In collaboration with ITEL faculty, we are working diligently to develop models and practices in technology-enhanced learning that Georgetown can adopt more broadly. We are pleased to share with you these emerging stories and practices that capture this exciting moment in teaching innovation at Georgetown.



Eddie Maloney
Acting Executive Director
CNDLS



Attendees examine posters representing the range of ongoing ITEL projects.



Posters highlighted the goals of each project.

ITEL PROJECT SHOWCASE

A panel and poster showcase held on October 7 highlighted faculty-driven projects funded through the first round of the Initiative on Technology-Enhanced Learning (ITEL), a university-wide initiative designed to foster innovation and experimentation in teaching and learning with technology.

To view videos introducing each ITEL project, please visit CNDLS.GEORGETOWN.EDU/PROJECTS/ITEL

Held in concurrence with the announcement of a second call for proposals, the ITEL project showcase drew attention to the progress and ongoing successes of the first round of ITEL projects. It also offered an opportunity for faculty not only to share what they have accomplished thus far in the first round of funding but also to learn about the work their colleagues have done to transform their courses.

Posters representing those 27 faculty-driven projects emphasized the depth and breadth of the first round of ITEL awards. Guests explored the projects during

a poster session, which was followed by an ITEL Faculty Recipient Panel moderated by Provost Robert Groves. The faculty panel included Stacey Kaltman (Psychiatry), Arik Levinson (Economics), Clay Shields (Computer Science), and Ted Moran (SFS).

The panel focused on four exemplary—yet highly varied—ITEL projects. After an introduction from Provost Groves, the panelists' discussions began with a screening of their ITEL project videos, which describe the learning goals that inspired their work and introduce the technologies and approaches that they decided to employ in their courses. Following each video, the panelists shared their experiences developing and implementing an ITEL project with CNDLS.

Stacey Kaltman's project involves the design of an online simulation to produce interactive scenarios of physician-patient communication that her students might encounter as practitioners. Her project will help medical students hone their awareness of the nuances in physician-patient conversations and enable them to communicate more effectively with future patients in uncertain and deeply varied conditions. Kaltman and the CNDLS team are building a video-based simulation composed of branching pathways that allow students to choose various communication paths. The design of the simulation allows students to feel like they are communicating with a real patient, and the authenticity that it lends will help medical students interact with patients in a diverse set of potential scenarios.

Arik Levinson shared his experience using a tablet computer to display split-screen images and mark up charts and graphs during his large-enrollment economics lectures. Levinson explained that this incorporation of tablet technology has played an important role in enhancing his use of classroom time. For example, Levinson noted that he can easily post the digitally-captured notes

from his lecture to Blackboard for students to access after class as a review aid. Student feedback from the course indicated that students felt they were able to learn more due to Levinson's use of the tablet computer, and they have found his course adjustments helpful as they aim to keep up with the course material.

Clay Shields introduced the audience to his and colleague Mark Maloof's redesign of their co-taught introductory computer science course. In order to allow students to review material outside class and develop their individual programming skills, Shields and Maloof have created video screencast tutorials and lectures that students can review on their own time. Shields discussed how his project has been an important resource for students as they practice, refine, and master programming skills.

Finally, Ted Moran shared his experience developing and launching the first Massive Open Online Course (MOOC) offered through GeorgetownX. The fast-paced seven-week course, hosted on the edX platform, allowed students outside the university to get a glimpse of the Georgetown experience. Data from the course is contributing to a broader research agenda at CNDLS that is investigating effective models of student learning in technology-enhanced environments.

Attendees mingled and discussed their experiences working on technology-enhanced learning projects at the reception that followed the panel. CNDLS looks forward to highlighting new ITEL projects through future showcases. ■



GU @ SXSWedu

Though only a few years old, SXSWedu has become a landmark conference on the future of technology in higher education.

On Wednesday, March 5, 2014, Provost Robert Groves, CIO Lisa Davis, and Z. Michael Wang represented Georgetown's Designing the Future(s) of the University Initiative at a well-attended SXSWedu session. SXSWedu, one of four signature tracks in the SXSW festival, brings together educators and educational technology innovators for a week of interactive sessions.

The session opened with a CNDLS-produced video montage that highlights the energy on campus around the Designing the Future(s) Initiative, with special attention paid to the Initiative on Technology-Enhanced Learning and the Hackathon, a student-centered innovation experience.

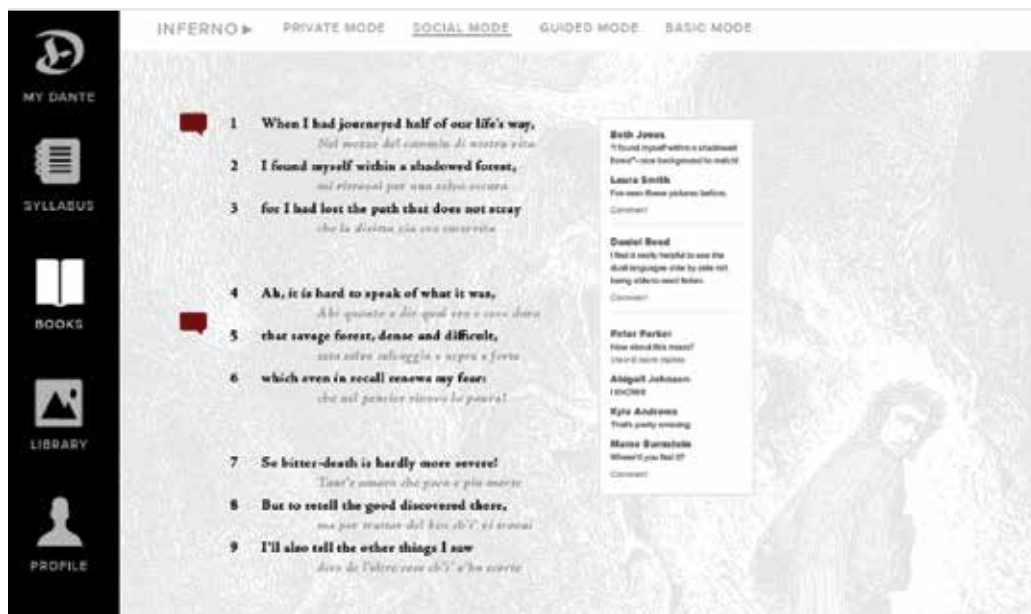
Please visit sxsw.georgetown.edu for more on Georgetown's involvement in SXSWedu, and visit futures.georgetown.edu to watch the featured video.

DEVELOPING THE MYDANTE EXPERIENCE

Frank Ambrosio has been offering a course on Dante's *Divine Comedy* to Georgetown students since 1990, and now this highly popular class will be available to students around the world as a Massive Open Online Course through GeorgetownX. Development of this course and the platform on which it will be hosted is currently underway.

When CNDLS began working with Frank Ambrosio fifteen years ago

to conceptualize the first version of MyDante, Ambrosio described his current course and outlined his goals for a new course learning environment. As Ambrosio explained it, when he teaches the course, he emphasizes the importance of reading Dante's *Divine Comedy* in three ways: literally, metaphorically, and personally. He wants his students to understand the textual plot of the poem, grasp its symbolic meaning, and relate that meaning to their lives. An environment built to introduce students to Dante, he noted at the time, should help them experience this complex poem on multiple levels and through multiple media. It should ultimately facilitate the goal of the course itself: to read the *Divine Comedy* contemplatively. Contemplative reading assumes heightened attention to the way in which the poetic text invites us into a dialogue in which we experience ourselves directly addressed as persons and invited to respond in an authentically personal way. The metaphor of contemplative reading is based on the medieval monastic technology of the illuminated manuscript. These texts engaged their readers on a sensory level so as to



MyDante interface prototypes have gone through many iterations as the team strives to facilitate contemplative reading in the MyDante platform.

Students will question for themselves the meaning of human freedom, responsibility, and identity by reading and responding to Dante Alighieri's *Divine Comedy*, which still speaks vividly to modern readers struggling with the question, "who am I?"

Frank Ambrosio

stimulate the imagination to envision meanings which reached beyond the page and were then returned to the page in the form of marginalia which memorialize the reader's response.

Modern digital technology can further expand the range of reader engagement at all three levels of understanding and response: literal, metaphorical, and personal. The MyDante environment was created with that goal in mind, and today, both CNDLS and Ambrosio are eager to see it into its next stage, where it will enliven the reading experience of thousands of worldwide learners.

Making all of this happen in a massive course on an open platform has required significant effort and innovation on the part of the course team, which includes Ambrosio, an interdisciplinary group of colleagues and students, and a CNDLS design team. Fortunately, the team has benefited from years of experience with this very course. When CNDLS

MyDante prototypes that reflect various desired features, including "reading modes," "guided text," and distraction-free reading environments.



To register, visit
EDX.ORG/SCHOOL/GEORGETOWNX

initially worked with Ambrosio to develop MyDante, it took the form of a CD-ROM used as a course companion. It evolved into an online space that allowed students to participate more actively in the poem through digital annotations, journals, and blog posts. Through this experimentation, effective practices to achieve course learning goals have emerged, offering Ambrosio and the CNDLS design team valuable information as they transition the course into an edX course that challenges the conceptual boundaries of what a MOOC is and does.

Students who enroll in the GeorgetownX MyDante course will not actually spend the bulk of their time in the edX platform. That is because the CNDLS design team is creating an entirely new and independent platform, a new version of MyDante, to host the majority of interactions and experiences that will define the course. The platform will allow students to read and annotate Dante's epic in a flexible digital space that can be private or collaborative and independent or guided. On MyDante, students will find the written poem in both the original Italian and an English translation. They can also listen to an audio version of the original Italian to get a sense of the lyricism and rhythm of the text. In addition to experiencing the text multimodally, students will have access to Ambrosio's annotations and marginalia, as well as the "Biblioteca," or library, which will house multimedia supplementary sources.

The digital platform of the course will provide students with a highly interactive and collaborative experience wherever they are in the world. As they read, students will have the ability to annotate the text with their own reactions—a metacognitive exercise that encourages them to reflect on their personal reading experiences. Students will also have a personal journaling space in the form of a blog to work through their ideas about the poem.

In addition to this individual work, students will also be in dialogue with one another through discussion forums. There, they can pose questions and learn from each other's reading experiences. They will also have the opportunity to present their own scholarly publications, sharing their work with other learners participating in the course.

As for assessment strategies, the course team has learned a lot from previous GeorgetownX courses and added a few ideas of their own. Teaching Assistants will be highly involved with the administration of the course, and the course may also incorporate carefully scaffolded peer review and crowdsourced grading.

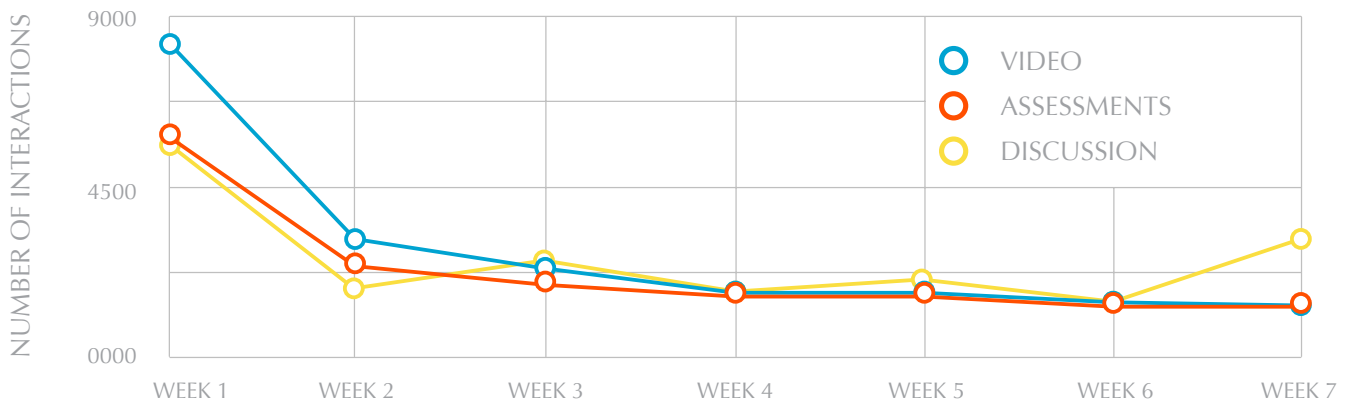
The MyDante MOOC, listed on edX with the title "*The Divine Comedy: Dante's Journey to Freedom*," will be released in three modules. The first, focusing on Dante's *Inferno*, will launch on October 15, 2014. The second and third modules, which cover *Purgatorio* and *Paradiso* respectively, will go live in early 2015. ■

NEXT STEPS

FOR THE GLOBALIZATION MOOC

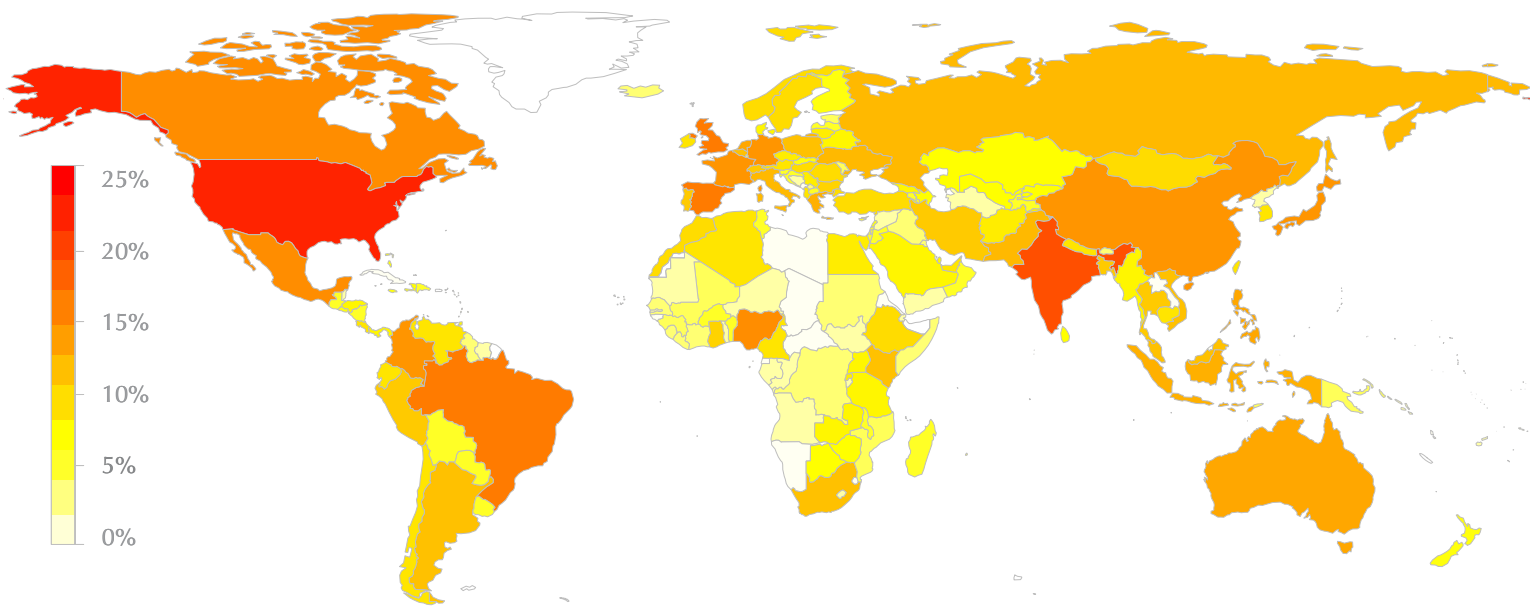
Globalization's Winners and Losers: Challenges for Developed and Developing Countries, the first MOOC offered through GeorgetownX, concluded on December 3, 2013. Though the course has closed, the work has not ended—the process of analysis and research is now well under way.

ACTIVE STUDENTS PER WEEK



GEOGRAPHIC DISPERSION OF COURSE PARTICIPANTS

The data on this map is reflective of information collected in a pre-course survey of participants.



Producing MOOCs for a global audience offers Georgetown unique opportunities to research learning on a far more extensive scale than ever before. With over 35,000 students enrolled, the Globalization course has provided CNDLS and the course staff with a wealth of data to examine. The data analytics team at CNDLS is using that data to hunt for insights on learning that will be revealed through careful research of diverse data points, from basic demographics to learner clickstream data and individual assessment results. An analysis of learner responses provided via the pre- and post-course student surveys will help bring us closer to understanding students' motivations for enrolling in the course and, when applicable, following through with their intention to complete the course. Who completes the course, and why? What student-generated actions and interactions signal student engagement and, conversely, what instructional strategies build student engagement? CNDLS is eager to make meaningful progress toward answering questions such as these.

While CNDLS and the International Business Diplomacy (IBD) Program are busy making meaning of the course clickstream data, they are also taking care to note the stories and suggestions emerging from written survey responses to the post-course survey. One respondent, a student from Afghanistan, went on to publish a piece in her local newspaper about the resource course after being particularly touched by the material in week one, which explored that topic in depth. Respondents to the survey also included parents of Georgetown students, a single mom living in Kenya, and professors located around the world from Kazakhstan to Tennessee. Many were complimentary—"I really appreciate the work that has gone into this course," one participant shared—while others offered constructive suggestions for improvement, such as including more visuals, case studies, and perspectives from the developing world.

Because the course proved so successful, GeorgetownX will offer a reiteration of the course with adjustments based on participants' helpful feedback. Be on the lookout for INFX-523-02 in the fall of 2014. ■

35,519
Students Enrolled

14,362
Active Students
engaged with course
material at least once

1,152
Certificates Awarded
to students with a final
grade of 75% or higher

TOTAL STUDENT PARTICIPATION AT CONCLUSION

**GeorgetownX Courses
SPRING
2014**

We are pleased to announce the launch of two new GeorgetownX courses this spring.

Introduction to Bioethics
April 15—June 15, 2014

Should we clone humans? Who owns our DNA? When does medical treatment turn into medical enhancement—and should we care? *Introduction to Bioethics* explores some of the most difficult—and fascinating—moral challenges we face in health, medicine, and emerging technologies.

Genomic Medicine Gets Personal
June 4—August 5, 2014

This course will provide an introduction to genomic medicine and a better understanding of the issues associated with personal genomic information. By the end of this course, students will be able to better understand the field of genomics; be familiar with various online databases and resources; and understand and appreciate the medical, social, ethical, and legal issues associated with the availability of personal genomic information.

To register for these courses, please visit
EDX.ORG/SCHOOL/GEORGETOWNX

A CONVERSATION WITH PROVOST GROVES

The *Designing the Future(s) of the University Initiative* challenges the campus community to reimagine delivery mechanisms for a Georgetown education that make the most of this moment of possibility while reinforcing the values that define us: among them student formation, scholarship, and commitment to the common good. In conversation with CNDLS, Provost Groves discusses the Future(s) Initiative, how it will impact faculty, and what role CNDLS might play in designing the future of Georgetown.

Georgetown is currently encouraging a culture of experimentation and innovation in teaching and learning. How do you see this experimentation increasing our value and relevance as a university in the coming decades?

We're at a moment of tremendous change and churn in the external environment. No one knows exactly what the future is going to be, although some claim clearer visions of the future. So that means we have to make alternative guesses on the future. The most efficient way to do that is to try out different things—formally, purposefully—with true experiments where we make deliberate changes and compare those results to the results we were seeing before. We approach this experimentation with the expectation that some experiments will discover effective new ways of doing things, and others will result in outcomes that aren't worth pursuing further. Both of those are successful experiments because they lead you to understand the problem better. That's what we need.

One of our new efforts that you're leading is the *Designing the Future(s) of the University Initiative*, which invites

participation from all those who have a stake in the future of the university—faculty, students, staff, and alumni. What unique opportunities do faculty have at this moment to impact the future of the curriculum and our academic programs?

At this moment, we want to liberate faculty to try things that existing structures make difficult to do. And we've seeded the conversation with some ideas whose total function is to make other ideas happen. We just want people to start thinking of new ways of doing things. We want all of the things we're experimenting with to allow faculty to fulfill their mission in ways that they find more efficient, more effective, more pleasurable. So the five ideas we have introduced [under the category of *Designing the Future(s) Experiments*] are intended to be catalysts for other ideas.

What sort of incentives does the administration plan on offering faculty to do that kind of experimentation?

Some of the ideas faculty come up with, I think, will take advantage of existing faculty groups that are already working together, so suggesting new program features will be folded naturally into

their activities. Other ideas may need periods of development that require faculty time, and we'll have to figure out how to do that.

The *Formation by Design* project is part of the *Designing the Future(s) of the University Initiative*. The *Formation* project reminds us that student formation takes place at the intersection of individual and context. Traditionally, at Georgetown, that context has been residential. As Georgetown experiments with technology-mediated interactions and communities—and online learning—how can we continue to emphasize and empower formation in online contexts?

We don't know. I think the President's address [remarks at the launch of the *Future(s) Initiative*] in November is a serious reflection of how devoted we are to formation. Any of us involved in social media and internet-mediated communication know that there are similarities and differences in those communications. It appears that our early thoughts about blending together online interaction with face-to-face interaction make sense in a lot of the domains that we're involved in, so we feel better about making a commitment to

blended learning. Current experiments at Georgetown, including partnerships with educational technology companies 2U and Deltek, are teaching us what kinds of cognition, emotive behaviors, and social bonding take place in electronic-mediated communication—and what kinds don't. Is successful cognition and meaningful bonding dependent on starting with a face-to-face relationship before migrating into a mediated one? Can rich student-faculty interactions occur solely with computer-mediated communication? We won't know the answer to these questions unless we try different things. And this is a fundamentally important question for us.

What role do you see CNDLS playing in helping Georgetown design its future?

CNDLS remains the jewel in the crown of pedagogical innovation at Georgetown. In a real way, these last two or three years have shown the wisdom of having CNDLS at Georgetown. We're headed for a university that has components of CNDLS—its skills, capabilities, insight—more widely dispersed. So the challenge to the institution is how to retain and enhance the great contributions of CNDLS in a world where many of the things that CNDLS did three years ago—proven innovation that is ready for larger-scale production, for instance—ought to be dispersed throughout the university. We have to find out how best to do that. As we're aiming to create practices that are transferable and scalable at the university, those practices will need production facilities or assistance that does not necessarily remain solely within CNDLS. ■

FORMATION BY DESIGN

The concept of formation is at the heart of an education dedicated to shaping students to be fully human, to cultivate their authentic selves, and to inhabit a sense of personal responsibility for improving the world.

This year, as Georgetown addresses the much-discussed “moment of disruption” in higher education through the Designing the Future(s) of the University Initiative, a generous gift will enable a special focus on the concept of formation and its relationship to Georgetown and higher education. Preliminary research and a series of engagements with key stakeholders and partners will produce a research agenda to define, design for, and measure formation within the context of higher education.

Key questions for the Formation by Design project include:

- ▶ **How do we define formation for a new ecology of learning?**
- ▶ **How do the emerging conditions of globalization, complexity, and social connectedness shape the outcomes we value for the development of the whole person?**
- ▶ **How do we design for learning environments that take the interdependence of knowledge, skills, dispositions, and values as a starting point?**
- ▶ **How do we measure and provide evidence of impact on dispositional and formational aspects of development and learning?**

In spring 2014, the Formation team is meeting with a number of educational leaders to discuss current research and to establish common language and a framework for a model of formational education. In addition, the team is enlisting the perspectives of Georgetown alumni through semi-structured interviews that elicit formational experiences and essential skills, as well as the pathways that led them to their current careers. At the end of June, the project will host a two-day symposium which will bring together Georgetown constituents and external leaders in psychology, learning analytics, student development theory, and learning outcomes to explore the models and metrics for assessing formation and education of the whole person.

Pilot designs for the development of formational dispositions and abilities at Georgetown, as well as ways to measure these outcomes utilizing concepts of self-authorship and integrative learning analytics, will emerge from the symposium.

For more on the Formation by Design project, please visit
FUTURES.GEORGETOWN.EDU/ABOUT/FORMATION

INSTRUCTIONAL INTERACTIONS

FOR THE SCS ONLINE SUMMER PROGRAM

As CNDLS continues to assist Georgetown professors with the creation of Massive Open Online Courses (MOOCs), the university is also broadening its experimentation with a different kind of online learning, one with a much smaller audience. In partnership with the School of Continuing Studies, CNDLS is designing a series of summer courses that will exist as online versions of Georgetown core courses.

Five online courses representing a cross-section of lower-division courses, many of them fulfilling general education requirements through the College, will launch this summer as a pilot program: *Writing and Culture Seminar*, *US Political Systems*, *World Civilizations I*, *Justice*, and *Biochemistry & Human Functioning*. These online courses were conceptualized and developed to provide Georgetown students with a way to keep up with their degree progress even if they are not spending their summer on the Hilltop. Each of the five pilot classes taking place this summer will grant degree-advancing credit to Georgetown students and visiting students who successfully complete the course.

For the pilot program, class sizes will be capped at 20 students to ensure the same quality and individual attention that students receive from in-person classes. Each course will run for eight weeks, beginning at the start of the first summer session. The courses will operate asynchronously, meaning that students will access and contribute to weekly course content on their own schedules. The asynchronous model will appeal

to Georgetown students who elect to return home during the summer as well as to Georgetown students who need a summer class to advance towards their degree but who, for various reasons, opt to live elsewhere. Although the classes will operate asynchronously, students will be able to work in real time within small groups and will have time to discuss ideas with the faculty member synchronously, allowing students to collaborate and participate socially.

The faculty for the pilot program were selected in part based on their previous experience with online learning models and incorporation of online assignments into their face-to-face courses. Creating these courses, which need to replicate the quality and interactivity of on-campus Georgetown courses, called for a different kind of instructional design. Through the School of Continuing Studies (SCS), CNDLS was able to hire a full-time instructional designer to assist in the development of the courses.

The instructional design used to form the courses adheres to a methodology that promotes a student-centric and outcomes-driven learning experience.

It requires an analysis of course content, student and faculty engagement, and technology. CNDLS and SCS are designing the summer program based on research of best practices for online learning. CNDLS' approach to designing these courses is largely derived from the Quality Matters rubric, as well as Community of Inquiry (CoI) research.

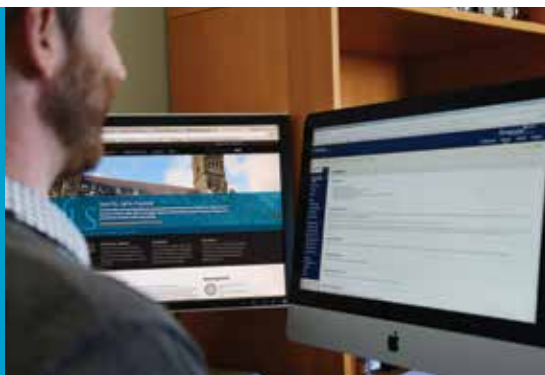
The Quality Matters rubric is a widely recognized assessment tool used to evaluate online learning models. The rubric focuses on the design process and will provide CNDLS with an established means for assessing each summer course for its process, approach, faculty experience, student experience, and learning outcomes in comparison to its corresponding face-to-face class.

Community of Inquiry (CoI) is a system of best practices for the implementation of online courses. CoI identifies three aspects of successful online learning environments that, together, create a meaningful educational experience: social presence, cognitive presence, and teaching presence. In fulfilling Georgetown's commitment the Jesuit principle of *cura personalis*, creating an

engaging social presence is particularly important for these summer courses. Participating faculty will establish a sense of community from the beginning of each course and continue to foster group cohesion by assigning interactive assignments such as virtual discussions. Additionally, faculty will offer virtual office hours to help build a teaching presence that, in combination with other strategies, will offer instructional experiences comparable to those in face-to-face Georgetown courses.

Another critical part of the instructional design process is working closely with the faculty who will be facilitating each course. The CNDLS instructional design team met with faculty members to find out how they plan and run their Georgetown courses. In particular, the team wanted to know what faculty members were already doing online and what types of student interactions were most important to them in their courses.

CNDLS instructional designer Kyle Kuhn works closely with Blackboard to develop visual templates for the upcoming summer classes.



To read more about Quality Matters, visit
BIT.LY/QMRUBRIC

and to read more about Col, visit
BIT.LY/COIMODEL

This information helped both CNDLS and the participating faculty to develop the online course syllabi with the same learning goals and interactivity as their on-campus counterparts.

The next phase of the instructional design process for the SCS courses was to meet with participating faculty and select the digital tools for each course. Blackboard will be the main platform for the courses, with Blackboard building blocks added to fit each course's needs. Some tools will be selected to best convey content, while others will serve to facilitate social interactions. The purpose of each selected digital tool needs to be transparent so that students realize the value of every assignment. Students will use each selected tool often enough to become comfortable with it, ensuring that each tool is fully integrated into the course and serves the learning goals.

The instructional design team has an extensive assessment plan in place. The Quality Matters rubrics will be applied to assess the design of the courses before they are implemented so any improvements can be made before the courses are opened to the students. CNDLS will be administering a post-course survey to the faculty members to learn about their experience in the design process as well as their experience teaching the courses. CNDLS will also be administering a pre- and post-course survey to the students (including the Col survey) to understand the student experience and establish a measure for whether the courses provide a Georgetown experience similar to those of our face-to-face courses. CNDLS will also be implementing an online version of our mid-semester group feedback (MSGF) process during the second week of the course so faculty can make adjustments as needed. With this information, CNDLS will be able to report on the extent to which these courses met Georgetown goals, as well as identify what modifications will improve both process and implementation for the second round of such courses in the summer of 2015. ■

The Community of Inquiry Model

The Community of Inquiry (Col) Model is a theoretical framework for creating strong learning experiences through the development of three interdependent elements crucial to an educational transaction.

The framework is grounded in the research of John Dewey and reflects the constructivist approach to learning. The three elements of the Col model are as follows:

Social presence is the ability of learners to project their personal characteristics and form interpersonal relationships in a safe learning environment. It is the degree to which learners feel socially and emotionally connected.

Teaching presence is the design and administration of cognitive and social processes to create a fulfilling learning experience. The educator is responsible for establishing goals and activities for the course and assessments that measure whether those goals have been met.

Cognitive presence is the ability of learners to construct meaning through sustained reflection and communication in a learning environment. Learners are able to resolve learning problems through iteration and conversation.

At CNDLS, the instructional design team aims to balance these elements to create a rich learning experience for students.

BUILDING SCALE AND INSIGHT WITH FACULTY COHORTS

Through the Initiative on Technology-Enhanced Learning, faculty are exploring themes related to teaching and learning with technology in cohorts while building approaches, practices, and models for future implementation across the university.

Since December 2012, when the Initiative on Technology-Enhanced Learning (ITEL) was launched, CNDLS has funded and supported two rounds of faculty projects designed to strengthen teaching and learning in Georgetown's physical and virtual learning environments. The inaugural round of ITEL grants, with awards announced in May 2013, called for faculty-driven projects that ranged widely in scale, from small course components to large-scale curricular change. In the second round, CNDLS introduced a "cohort model" for curricular change focused on developing interdisciplinary

faculty communities of practice that would explore a particular challenge in technology-enhanced learning. Given prevailing support for this model, both on campus and in research on learning design, the third round of ITEL grants will continue to foster the cohort model through new themes and conversations.

Each cohort is collectively establishing models and examples of effective practices for teaching with technology that can be shared with the larger Georgetown community. Individually, however, instructors are each transforming a small component of

one of their courses. This approach has generated promising projects, many of which are highly experimental.

The cohorts offer CNDLS the opportunity to work directly with more faculty than would otherwise be possible. For the second call, CNDLS invited faculty to apply to one of three cohorts exploring themes around technology-enhanced learning: tablet and mobile computing, open educational resources (OERs), and using technology to educate the whole person. ■

TABLET AND MOBILE COMPUTING

This cohort has been exploring the opportunities that new tablet and mobile technologies, including classroom response devices, offer us to rethink or reimagine the classroom environment and use of the classroom space for collaborative work among students. Faculty projects in this cohort include, among others:

Multitasking in the Gross Anatomy Library: Using iPads to Learn Suturing

Aykut Üren and Carlos Suárez-Quian (School of Medicine) teach suturing to medical students during the spring modules of year one in *Sex, Development & Reproduction* and *Head/Neck Special Senses*. High enrollment means that Üren and Suárez-Quian are continually challenged to create efficiencies in providing feedback to over 200 first-year medical students. This semester, they have created suturing videos that will be deployed through iPads to provide students with accessible instruction as they practice suturing.

Student Assessment Achievements in CCTP 645, The Poetics of Mobile

Garrison LeMasters (CCT) is introducing a system of peer-awarded, web-reported achievements in his graduate-level CCT course, *The Poetics of Mobile*. Drawing information from the successful systems behind video games, LeMasters uses a mobile, phone-based system of badges, or achievements, to motivate students. The merits of badges are significant: they aim to make learning goals explicit, increase a student's self-determination, foster competition, and visualize the magnitude of each student's knowledge. Most importantly, badges encourage students to self-identify as experts in an active and visible fashion.

OPEN EDUCATIONAL RESOURCES

This cohort is identifying and evaluating open educational resources (such as MOOCs, online simulations, and other open/free course content on existing platforms) for use in current on-campus courses as a tool to help rethink or flip the classroom experience. Faculty projects in this cohort include, among others:

Economics of Development: Poverty Alleviation and Human Development

Shareen Joshi (SFS) is leading a project that aims to create an electronic library of recorded interviews of Georgetown faculty who are passionate about and expert in the area of global political economy. Joshi is interested in bringing knowledge from Georgetown's community of scholars to the student body, and she is creating, rather than using, an OER.

Data Visualization for Politics, Policy, and Business

Mark Rom (MSPP) is relying on OERs because the proprietary software that he might otherwise assign poses a number of challenges that restrict ease of use for students. Rather than devote substantial in-class time to learning software basics, Rom has flipped the classroom, encouraging students to use online learning resources, including lynda.com tutorials; this way, students will benefit from substantial software training outside the classroom. He plans to move toward open-source software for all aspects of the course.

USING TECHNOLOGY TO EDUCATE THE WHOLE PERSON

This cohort is exploring how existing technologies can be used to enable such things as deep reflection, integration of learning, and respectful engagement with the opinions of others in order to develop models of learning that help expand and deepen the Jesuit value of educating the whole person. Faculty projects in this cohort include, among others:

Representations of Africa in Film and Literature

Lahra Smith (SFS) has introduced technology into her African Studies course to enhance the film-watching experience of her students outside of class. "We blog during the movie and it is so useful having them do this, versus not remembering the film afterwards or not taking notes on it. I'm very excited about it. I really like that we don't have to use class time to watch the films. How will I know students are impacted? The fact that weekly discussions already seem more lively is the most obvious and immediate positive impact." In addition, Smith paired students for interviews that she videotaped on her iPad, and then used Georgetown Box, a file sharing service, to send the videos to the students so that they could write a reflection based on re-watching the interview. "I used this exercise to give them some space to prepare for their transition post-college. They seemed to really appreciate a chance to do that in a classroom setting and especially in the context of thinking about what African Studies has helped them learn or prepare for in terms of their future careers."

Introduction to Cultural Psychology

Yulia Chentsova Dutton (Psychology) desires to provide students with more opportunities to understand the ways in which their own experiences and actions are contextualized by their cultural practices. As part of her project, Chentsova-Dutton has partnered her course with cultural psychology courses taught at Concordia University in Montreal, Canada, and at Hamline University in St. Paul, MN. Students at each university share an online assignment where each student blogs in photos and text about a normal day in their life. The goal of the assignment is to make students see their assumptions of typical or normal interactions from others' perspectives. Then, intercultural reflection and discussion take place via textual exchanges. "I am looking for students to make references both ways: applying course concepts to their life experiences and using their life experiences as examples of course concepts." Ultimately, Chentsova Dutton hopes to show her students that one cannot separate meaning and experience from culture—an individual is embedded in a cultural context.



MARTIN IRVINE

Martin Irvine, Founding Director and Associate Professor of the Communication, Culture & Technology (CCT) Program, is currently developing the program's first online-only, credit-bearing course. In conversation with CNDLS, Irvine offers his perspective on the value of online education and describes why a wealth of opportunities make this a critical moment to experiment with online education at Georgetown.

For the last several years, Martin Irvine's classes have been paperless environments. He makes the syllabus available to students in the form of a custom website with links to weekly readings, videos, and presentations. Students, in turn, use a blogging platform to reflect on and integrate their ongoing learning in the course and share it with their peers. Final projects often consist of an online multimedia essay, rich with graphics, videos, and links. This form of course organization has many similarities with the way in which an online course might be organized, making the process of conversion from one medium to another easier as Irvine develops a new, fully online course through an ITEL grant.

Harnessing technology both inside and outside the classroom is nothing new for Irvine, who is Founding Director of and Associate Professor in the CCT Program. He has been pioneering technologies at Georgetown for many years and,

among other firsts, he set up the university's first website in 1993 and piloted the use of Blackboard in 1998. His newest endeavor, with the support of an ITEL grant in the program's second funding cycle, is the creation of an online, credit-bearing CCT course titled *Key Concepts in Technology and How to Use Them*. The course will explore concepts and theories surrounding communication, information, computation, and digital media. "The ability to participate in the future of our post-digital society requires knowledge and conceptual tools for understanding the functions and design principles of our media technologies. Technology is too important to be left to technologists alone," says Irvine.

While this online course will be targeted at working professionals and qualified students from other universities seeking leadership roles in business, policy, academic, and government sectors, current Georgetown students and alumni

will also be welcome to register. The expected enrollment for the course's first iteration is between 25 and 30 students. "We need an enrollment larger than ordinary graduate courses to test proof of concept and feasibility, and learn how we can scale to larger enrollments and the ability to implement other courses," notes Irvine. He is also quick to remark that this course is not a Massive Open Online Course (MOOC). Students must apply for admission through the Graduate School and pay tuition just like any other student. Furthermore, the rigor of the online course will be equivalent to any conventional classroom course. Irvine explains that "evaluation criteria will be the same as in any graduate course I would teach in CCT, though the learning activities and assessment methods will be suited to the online platform."

Unlike many other ITEL projects that have required the development of new software and online platforms, this course will utilize the university's current systems, including Blackboard and Google Drive, and thus will not require additional investments in core technologies. According to Irvine, "The Blackboard and Google Drive (Docs) platforms have good tools for both synchronous (real-time) communication and collaboration, and for document and media library storage for 24/7 access to course materials. The TAs and I will hold weekly real-time video conferences, and I will also hold real-time weekly virtual office hours for students who can connect via video conferencing."

Since Irvine has been experimenting with technology for years, what does he see as special about this moment for online education? Why implement this course now? In Irvine's opinion, "we're at the point of a perfect storm in the convergence of educational markets, institutional needs, developments in university academic culture since the widespread adoption of internet and digital media technologies, and maturity in the software platforms and media modalities for online learning."

Georgetown wasn't ready for online-only courses ten to fifteen years ago, but many things have changed to make this the right time for Georgetown to extend its historic mission by providing for-credit online courses that can reach many more students than we could ever bring to the physical campus.

Martin Irvine

In many ways, the development of this course reflects Irvine's philosophy that technology must always serve larger pedagogical aims. "For me, the internet and web environments have always provided a platform to expand student learning beyond the short timeframe of the classroom and conventional static texts," he notes. "This online course project is the culmination of many years of experience, learning, and preparation."

As with all ITEL projects, Irvine's project aims to offer insights that are widely applicable, scalable, and transformational. The course will be evaluated through the analysis of both learning analytics data provided by Blackboard and feedback from students. Irvine hopes that this course model will be directly extensible to other academic units seeking to offer for-credit online courses while extending Georgetown's mission and opening new growth opportunities in online education. ■



Irvine teaching a class of CCT students.



Demaree illustrates to her colleagues the benefits of seamless technology integration in the classroom.

REDESIGNING CAR BARN 316

Informed by research on learning space design, CNDLS transformed a classroom in the Car Barn into a flexible teaching and learning environment.

The classroom redesign included a number of features integral to the creation of a flexible teaching space with the aid of technology.



This spring semester, CNDLS has been redesigning the room Car Barn 316, which for years had been assigned to regularly-scheduled courses and thus unavailable for experimental use. Given CNDLS' need for additional meeting space and interest in experimenting with learning space design, our recent acquisition of the space—and the opportunity to put into practice some of CNDLS' ideas around learning—was timely. With leadership from CNDLS instructional designer Dedra Demaree, the room's full-scale transformation into a multi-purpose teaching and learning space has begun. Each feature in the redesign is guided by the principle that a learning space should be flexible, movable, and reconfigurable in order to allow easy transition amongst different pedagogical approaches and make the most of what current technology affords.

Demaree relied on her own experience designing a classroom for active learning, complete with flexible technology, for over 70 students at Oregon State University. She consulted with an internal CNDLS working group and solicited input from Georgetown's Classroom Educational Technology Services (CETS) as she conceptualized the room. Current literature on learning space design, including research on assessing learning spaces for effectiveness, informed the design process as well.

The room's versatility was designed to facilitate group work, interactive lecturing, remote lecturing, and live and remote conferencing, among other dynamic instructional approaches. Once room renovations are complete with multiple types of whiteboards, a tablet cart, fully wireless control, and remote capture capabilities, CNDLS plans to use assessment tools that also informed design and planning to evaluate the space, bringing the design process full circle. CNDLS is eager to see the room used as a training and test bed for faculty to try out a variety of pedagogical techniques. Positive faculty and student experiences, as well as lessons learned in this flexible environment, could accelerate the pace of change in classroom space campus-wide as Georgetown designs and redesigns classrooms for the twenty-first century.

We invite you to drop by CNDLS and visit the new space. Please be in touch with CNDLS if you are interested in exploring the possibility of using this new space to deliver a module or activity within your course.

To review two learning space rating systems we will use to evaluate this classroom, please visit bit.ly/educausespace and bit.ly/21stcenturylearner. ■

As the educational possibilities of new media continue to expand, a trend to use digital games to facilitate learning has emerged. MIT, Penn State, and other universities have begun investigating how digital games can enhance and complement instruction for students. When carefully integrated within a curriculum, digital games can make excellent teaching tools. Here's why.

Learning is built into games by design. To play a game, players must decode the rules, identify the conditions that mark success, and strategize within the game's constraints toward their goals. Digital games can intensify this process by modifying the conditions, forcing players to adapt and create new strategies. Well-designed games balance the risks of failure with a promise of reward to encourage players to probe the environment and to search for creative solutions.

The description above may also fit how you structure your students' experience of new material. Much as a classroom setting does, a game provides a lower-stakes environment to encourage experimentation. It is not without consequences, but the consequences have little or no impact on the outside world.

The potential for games as teaching tools is significant. Games researcher James Paul Gee writes that video games require skills akin to those used to acquire a new literacy (Gee, 2007). In 2010, Hoffman and Nadelson published a study on games and motivation, concluding that, if educational games are sufficiently paired to instructional content, real knowledge gains result. A recent study found that undergraduate biology students who played the video game Spore before a test scored five percent better than their peers who did not play the game (Bader, et al, 2012).

At Georgetown, digital games have been integrated into two classes as part of ITEL: a lower-level Spanish course and a Law Center course on evidence. These games offer exciting ways to supplement traditional classes. Through ITEL, CNDLS will offer a Gaming and Simulations Cohort in the fall of 2014. ■

SOURCES:

- Gee, James Paul. *What Video Games Have to Teach Us About Learning and Literacy*. New York: Palgrave Macmillan, 2007.
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- Poli, DorothyBelle, Christopher Berenotto, Sara Blankenship, Bryan Piatkowski, Geoffrey Bader and Mark Poore. 2012. "Bringing evolution to a technological generation: A case study with the video game Spore." *The American Biology Teacher* 74, no. 2 (February): 100-103.

DIGITAL GAMES & LEARNING

What if your students wanted to play your course until they won?





ONLINE RESOURCES

CNDLS offers an expansive range of online tools and training opportunities that instructors can use to support teaching, learning, and collaboration. These tools include Blackboard, WordPress blogs, lecture capture, media authoring, content curation, and much more.

Tools Hub

In an effort to centralize access to the teaching and learning tools and services offered by a number of support entities on campus, CNDLS teamed up with the University Classroom Services Working Group (UCSWG) to create an online hub for these tools and services. A number of the tools listed here include ideas for use in the context of a course.

To access the online hub, visit
COMMONS.GEORGETOWN.EDU/TOOLS

SHARING OUR WORK

Publications and Presentations

Bill Garr, Rob Pongsajapan, and Marie Selvanadin collaborated with **Betsy Sigman, Kristin Bolling, and Greg Marsh** on a journal article for the January 2014 issue of *Design Line*. This article, "Teaching Big Data: Experiences, Lessons Learned, and Future Directions," examines what constitutes Big Data, outlines the tools that have arisen to analyze it, and makes a case for Big Data education.

Dedra Demaree gave a presentation in January 2014 at the American Association of Physics Teachers Conference. She discussed how to structure online learning modules for physics learning to attend to affective issues and to help assure that students' working memory is focused on the physics content. She also outlined key design principles for creating self-directed learning modules that are easy for students to navigate and useful in providing real-time feedback to both the students and the instructor. She was invited to bring her presentation to next year's conference as a workshop.

Teaching Commons

The Teaching Commons is a collection of pedagogical resources and faculty experiences designed to give instructors ideas for revitalizing their courses with new teaching strategies. It highlights some of the most exciting instructional practices happening in Georgetown classrooms and gathers the accounts of faculty who have enhanced their courses with reflection, inquiry, and experimentation. Other resources include a teaching handbook and glossary of important teaching and learning terms.

To access the Teaching Commons, visit
COMMONS.GEORGETOWN.EDU/TEACHING

DigitalGeorgetown

Georgetown uses the DSpace platform in partnership with Lauinger Library to power DigitalGeorgetown, the university's open digital repository. This tool enables easy and open access to a vast collection of metadata-rich digital content. Most importantly for instructors, it provides seamless integration with Blackboard, making it easy to import a wide range of teaching materials, including articles, images, and videos. The materials are easily searchable and have been tagged with important learning objective keywords to provide relevant results. CNDLS has been working closely with the library this semester to archive sharable work emerging from ITEL projects.

To browse DigitalGeorgetown, visit
REPOSITORY.LIBRARY.GEORGETOWN.EDU

Faculty Advisory Board

CNDLS is grateful to the following individuals for serving on our Faculty Advisory Board this year:

Betsi Stephen (**Chair**)
School of Foreign Service

Frank Ambrosio
Department of Philosophy

Yulia Chentsova Dutton
Department of Psychology

Maria Donoghue
Department of Biology

Maggie Little
Department of Philosophy

John Morrell
Department of Art & Art History

Adam Myers
Department of Pharmacology & Physiology

Tanina Rostain
Law Center

Betsy Sigman
McDonough School of Business

Mark Rom
McCourt School of Public Policy

Matthew Tinkcom
Communication, Culture & Technology

In February 2014, **Susan Pennestri, Janet Russell, and Lucas Regnér** presented at the EDUCAUSE Learning Initiative Annual Meeting. Their interactive presentation, "Faculty and Students Working Beyond The Classroom: Flipped Knowledge Production," showed how social media features that accompany lecture capture technology can be used to mine captures for reusable content, which can be repurposed in learning modules for a flipped classroom, online course, or even a MOOC.

Marla Arbach contributed to a conference session on "Building an EDC Community Resource: Developing a Guide to Support an Educational Developer's Portfolio" at the Educational Developers Caucus 2014 Conference in Calgary, Alberta, Canada in February 2014. The session was part of a continuing project that explores educational developer portfolios as a means to conceptualize and document faculty development work.

Eddie Maloney gave a presentation on "Teaching Narrative Theory" at the International Conference on Narrative in Boston in April. His presentation explored the role that narrative theory can play in the graduate literature seminar.



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