2016–17 Annual Report
Center for Educational Innovation

University at Buffalo The State University of New York
This annual report is based on the Center for Educational Innovation’s activities from July 1, 2016, to June 30, 2017.

For more information about our center, visit our website at buffalo.edu/ubcei.
Message From the Director ................................................................. 2

Essential University Services .......................................................... 3
  Application Administration of Instructional Technologies
  Online Learning
  Student Assessment and Program Evaluation
  Communication, Engagement and Dissemination

Education ............................................................................................ 9

Research & Development ................................................................. 12
  CEI Seed Grant for Promoting Pedagogical Innovation
  Externally Sponsored Projects
  Refereed Publications
  CEI Reports
  Conference Presentations

Advisory Board .................................................................................. 19

Staff Directory ................................................................................... 20
The 2016–17 academic year was another exciting one for the Center for Educational Innovation (CEI). We continued to make strides in realizing the vision elaborated in our strategic plan for promoting excellence in integrated services, education, development and research. Over the year, in addition to providing essential university services in such areas as UBlearns, teaching the UB Curriculum, UB student evaluation of teaching, online instructional design, exam scoring and instructional video production, we successfully launched UB EXCITE (University at Buffalo Excellence in Course Instruction Through Enquiry). Seven faculty from six departments have been working with our specialists to redesign their gateway courses to improve student learning. Expanding our ongoing collaboration with The Graduate School, we successfully launched the Center for the Integration of Research Teaching and Learning (CIRTL) certificate program, joining a network of 43 doctoral universities to prepare doctoral students and postdoctoral researchers for future faculty careers in teaching excellence. Last but not least, we continue to make progress in promoting the scholarship of teaching and learning by securing external grants, presenting at national and international conferences, and publishing articles and books.

I would like to thank the faculty and various university offices for their support and collaboration over the year; our faculty advisory board provided valuable guidance in our work. Ultimately, I thank all the staff at CEI for their dedication, expertise and professionalism; I am so proud to be a member of this great team!

I invite you to read this annual report to learn more about our diverse activities and accomplishments and, more importantly, to explore ways to get involved.

CEI belongs to all of you!

Xiufeng Liu, PhD

Director, Center for Educational Innovation
Professor, Department of Learning and Instruction
Application Administration of Instructional Technologies

The Application Administration of Instructional Technologies cluster, in coordination with university partners, provides application administration for essential university services such as UBlearns, UBclicks and iTunes U.

Members of this cluster also provide technical support for faculty, staff and students, maintain online help documentation, and present workshops and group training sessions on the use of UBlearns, UBclicks and iTunes U.

2016–17 Activity Highlights

- Blackboard on UBlearns
  - Successful upgrade of Blackboard on UBlearns application software including release of new functionality (drag and drop files, student submission confirmation receipts and new course activity reports).
  - Upgrade of UBclicks service software, response devices and account licensing workflow.
- Delivered user training sessions for UBlearns and UBclicks service in one-on-one, small group (classroom), departmental and workshop environments.
- Worked one-on-one with faculty to help integrate instructional technology into their curriculum.

AT A GLANCE

**UBlearns**

- 7,031 UBlearns courses delivered
- 250,000+ UBlearns student enrollments processed
- 4,200 UBlearns support requests completed

**UBclicks**

- 180 Active faculty accounts
- 8,800+ Active student accounts
Online Learning

The Online Learning cluster provides instructional design consultation for individual faculty, departments and schools, as well as works collaboratively with instructors, academic units and campus committees on university policies and strategic directions for online learning.

This cluster also acts as a liaison between the university and regional, state and national online learning organizations to provide resources for faculty development, innovation and the implementation of quality standards and evidence-based best practices. Outside organizations include SUNY Center for Professional Development, Open SUNY Center for Online Teaching Excellence, Online Learning Consortium and National Council for State Authorization Reciprocity Agreements.

2016–17 Activity Highlights

- Worked with faculty in developing Massive Open Online Courses (MOOCs).
- Consulted on instructional design issues with faculty and staff relating to online learning practices and instructional technologies.
- Conducted workshops and developed training resources for online learning, UB’s ePortfolio initiative and the effective use of instructional technologies.

Shambhu Upadhyaya, associate professor and department chair, Department of Computer Science and Engineering, is one of the presenters in the Digital Manufacturing & Design specialization MOOC currently available on Coursera. CEI is part of the project team developing the course.
Student Assessment and Program Evaluation

The Student Assessment and Program Evaluation cluster provides support for program evaluation, UB Course Evaluations and UB Scoring Services.

CEI supports annual program evaluation through the development of report standards, maintenance of an online depository and the provision of timely feedback for ongoing program improvement.

Our center also supports the implementation of UB Course Evaluations — the university-wide tool for evaluating academic courses — by providing training to faculty and academic units, analyzing data to monitor technical qualities, and facilitating report generation for faculty, department chairs and deans.

In addition, CEI staff provides scoring services to instructors of large-enrollment courses.

2016–17 Activity Highlights

- Completed a two-year transformation of UB Scoring Services, focusing on redesigning the approach to processing tests and the intake process for scoring jobs. New desktop software applications to aid clients in the submission of test keys and maps were also implemented. Scoring jobs are now processed in the same amount of time with fewer full-time staff hours.

- Completed the transition of UB Course Evaluations system from Campus Labs to SmartEvals and successfully completed first round of course evaluations on the new system in spring 2017. Spring response rates were 45 percent, the highest yet achieved.

- Continued development of the university-wide Academic Program Assessment System, which provides current and historical organization of assessment plans and learning outcomes for programs and administration. Most of the 314 programs are complying with Middle States Commission on Higher Education (MSCHE) commitments.
CEI also provides support and assistance to programs, schools and departments undergoing review and accreditation. This past year, CEI assisted the School of Dental Medicine in preparing for its 7-year review by the Commission on Dental Accreditation (CODA). CEI helped the school map its curriculum to its program competencies, assisted faculty in the review and rewriting of its student learning outcomes across all courses, developed measurable assessments and worked with the Curriculum Committee to develop a more robust curriculum management plan for the future.

All programs and departments of the school passed national accreditation standards with no recommendations or citations. In fact, the school was commended for the extensive documentation of its curriculum and its use of data-mining to support instruction and curriculum design.

Communication, Engagement and Dissemination

The Communication, Engagement and Dissemination cluster highlights teaching and learning innovations at UB and beyond. This includes organizing special events with nationally known speakers, producing videos to highlight innovations at UB and informing the campus community of professional development opportunities related to teaching innovation and excellence.

UB EXCITE

UB EXCITE (University at Buffalo Excellence in Course Instruction Through Enquiry) is CEI’s initiative to promote innovation in teaching and learning at UB. As part of UB EXCITE, faculty can apply for funding to redesign their courses and the support needed to teach them. Selected faculty will form a professional learning community to collaboratively redesign their courses; the faculty will then teach the redesigned courses and collect data to evaluate the courses’ effectiveness. The collected data will guide further refinement of the redesigned courses. Course redesign, implementation and revision will form iterative cycles.

University Teaching Fellows

University Teaching Fellows are faculty who received UB EXCITE funding in 2016–17.

- Carl Alphonce, teaching associate professor, Computer Science and Engineering.
- Christine Human, lecturer, Civil, Structural and Environmental Engineering.
• Lara Hutson, clinical assistant professor, Biological Sciences.
• Ashima Krishna, assistant professor, Urban and Regional Planning.
• Jessica Poulin, clinical assistant professor, Biological Sciences.
• Sarahmona Przybyla, clinical assistant professor, Community Health and Health Behavior.
• Angela Samul, clinical assistant professor, Mathematics.
• M. V. Sivaselvan, assistant professor, Civil, Structural and Environmental Engineering.

Faculty Teaching Observation Program
Upon request from department chairs or faculty members, CEI professionals with university teaching experience come to a faculty’s class to observe teaching using a standardized protocol. CEI professionals then write a report and meet with the faculty to discuss findings and improvements and recommend pertinent resources for faculty to consider. Teaching observation reports are confidential; they are not shared with department chairs. During the 2016–17 academic year, CEI professionals observed five faculty members from three schools and five departments.

2016–17 Activity Highlights
Planned and organized campus–wide events, including:

• Annual Genteels’ Excellence in Teaching Conference, which focused on open educational resources, featured a keynote by David Wiley along with breakout sessions and post–conference workshops (over 90 people registered for the daylong conference).

• Annual Conference for Graduate Teaching Assistants (over 220 teaching assistants registered for the daylong conference).

Video production projects included:

• Genteels’ Excellence in Teaching Conference keynote High Impact Practices for Integrating Open Educational Resources (OER) into University Courses presented by David Wiley.

• A three–day video production workshop along with post–production and dissemination support for 21 faculty from across the country as part of the National Science Foundation project “Case Studies and the Flipped Classroom” (in collaboration with the Department of Biological Sciences and University Libraries).
• Community-Based Research Video Series for the Office of Civil Engagement and Public Policy:
  • What is Community-Based Research.
  • Working with Community Partners.
  • Developing Community Surveys.

Digital and electronic communications

• Continued enhancement of the CEI website, including expanded content, migration of forms and registration system to new platform and enhanced administration pages.

• Redesigned UB Course Evaluations help website.

• Developed and launched CIRTL@UB website.

• Developed promotional materials to inform the UB community of services, workshops and special events offered by CEI.

• Provided design services for the School of Dental Medicine’s Student Research Day.

EDUCATION

Master storyteller Jeff Polish, executive director of The Monti, led students through the process of identifying valuable and meaningful events in their personal and professional lives and shaping these events into memorable stories as part of the Telling My Story project.
Center for the Integration of Research, Teaching and Learning at UB (CIRTL@UB)

CIRTL@UB aims to enhance excellence in undergraduate education through the development of a national faculty committed to implementing and advancing effective teaching practices for diverse learners as part of successful and varied professional careers, particularly in the STEM disciplines. The first round of CIRTL Associate Certificates were awarded to 19 postdoctoral scholars.

DMDII 101 Specialization

Digital Manufacturing & Design, a 10-course specialization MOOC offered through Coursera, is intended to provide a foundation in how digital advances are changing the landscape and the capabilities of manufacturing. CEI has been involved in many aspects of this project, including assessment, script writing, resource planning and instructional video production. As of May 2017, there were more than 2,200 enrollments in the course.

Quality by Design (QbD)

QbD is an online faculty development course and open educational resource that provides open access to high-quality course content and opportunities for participants to engage in meaningful discussions with experts and peers on topics related to course design, interaction, learner support and assessment.

Built and delivered through a collaborative effort between UB and SUNY instructional support staff, QbD is now a SUNY supported resource. In 2016–17, there were a total of 266 participants from across SUNY, with 51 participants from UB.

Teaching Certificate for Postdoctoral Research Associates

In 2016–17, the Center for Educational Innovation and The Graduate School collaborated in offering a teaching certificate program for postdoctoral research associates. This program consisted of six two-hour workshops on the following topics:

- Essential Elements of Effective University Teaching.
- Basic Principles and Effective Techniques of Assessment.
- The Syllabus: A Contract Between Faculty and Students.
- Teaching With Technology.
Online Learning in the Next Generation.

Teaching as Scholarship: Becoming the Next-Generation University Faculty.

Thirty-two postdoctoral research associates registered for the workshop series, with 23 postdocs completing the series and receiving their teaching certificates jointly issued by The Graduate School and CEI.

**Teaching Online: An Orientation**

This redesigned course has been developed as a set of self-paced, online modules that allow faculty who are new to online teaching to explore and learn about topics such as asynchronous vs. synchronous, instructor presence, and student engagement and interaction.

**Telling My Story: Communicating with Digital Confidence**

Telling My Story: Communicating with Digital Confidence was created to help students acquire the digital media skills needed to effectively tell unique stories online. This program selected students who were within 1–3 semesters of completing their coursework and featured six workshops and a final session where students showcased their new skills.

The program was developed by faculty from the Department of Communication and staff from University Communications, Center for the Arts, Career Services and CEI. Funding was provided by UB’s Professional Pathways.

**EDUCATION**

Julia Schoonover, a political science major, showcases her new presentation skills as part of the Telling My Story: Communicating with Digital Confidence project.
Tools of Engagement Project (TOEP)

TOEP is an on-demand discovery-learning professional development resource. The goal of TOEP is to encourage SUNY faculty and staff to explore and reflect upon the use of emerging technology tools to expand tech-infused pedagogy. The TOEP community provides a supportive environment that encourages participants to reflect on how they might integrate these technology tools into teaching and learning. TOEP Phase 5 included 386 registrants from across 21 SUNY campuses, with 89 registrants from UB.

UBlearns Overview

This module has been developed as a self-guided online introduction to UBlearns. CEI staff facilitate discussions and answer questions in UBlearns for faculty, staff and teaching assistants who are taking the course.

CEI Workshops

To support excellence and innovation in university teaching, learning and assessment at UB, our center offers workshops for faculty, staff, graduate students and postdoctoral scholars based on the following themes:

- Active Learning
- Online Learning
- Open Educational Resources (OER)
- Teaching Evaluation and Program Assessment
- Teaching the UB Curriculum

For information about our current offerings, visit our website at buffalo.edu/ubcei.
CEI Seed Grant for Promoting Pedagogical Innovation

The Seed Grant for Promoting Pedagogical Innovation, offered annually through CEI, intends to promote excellence in university teaching, learning and assessment. In particular, it intends to enhance UB’s capacity to successfully obtain external grants to support university pedagogical innovation.

Five proposals were awarded funding in 2017:

**Creating and Assessing Cross-Course Collaborative Projects**
PI: Lukasz Ziarek, Department of Computer Science and Engineering
Co-PI: Jennifer Winikus, Department of Computer Science and Engineering; Carl Alphonce, Department of Computer Science and Engineering

**Development of Interprofessional Objective Structured Clinical Examinations**
PI: Fred Doloresco, Department of Pharmacy Practice
Co-PIs: Nicholas Fusco, Department of Pharmacy Practice; Kelly Foltz-Ramos, School of Nursing

**Integration of Physical and Virtual Cadavers in a Hybrid Gross Anatomy Curriculum**
PI: Scott Doyle, Department of Pathology and Anatomical Sciences
Co-PI: Stuart Inglis, Department of Pathology and Anatomical Science

**Integrative Learning Through the Data-Driven Classroom: the DREAM Challenge**
PI: Rachael Hageman Blair, Department of Biostatistics and Systems Engineering
Co-PI: Dan Gaile, Department of Biostatistics

**The Tilted Classroom: Leveraging Faculty Strengths and Content Videos to Enhance Student Learning**
PI: James Jensen, Department of Civil, Structural and Environmental Engineering
Externally Sponsored Projects

Collaborative Research: AGEP Transformation Alliance: CIRTL AGEP-Inclusive Excellence and Improved Climate for Future Faculty

A nine-university network committed to improving the climate in graduate education to increase the number of underrepresented graduate students and postdocs interested in and prepared for faculty careers. Participating universities are Iowa State University (lead), Boston University, University of Maryland – College Park, Michigan State University, Cornell University, Northwestern University, University at Buffalo, Howard University, University of Georgia and University of Texas at Arlington.

Xiufeng Liu, PI; Luis Colón, co-PI; Chris Connor, senior project personnel

National Science Foundation • Oct. 1, 2016–Sept. 30, 2021
Status: Funded ($150,098)

CTSA/KL2 Mentored Career Development Program: Engaging a Diverse Workforce of Translational Researchers

Educational experiences are designed to provide professional development activities in the development of clinical and translation science competencies for junior faculty.

Tim Murphy, PI (CTSA); Margarita Dubocovich, PI (KL2); Kim Griswold, co-PI (KL2); Xiufeng Liu, co-PI (KL2); Carol Van Zile-Tamsen, co-PI (KL2)

National Institutes of Health • Aug. 12, 2015–March 31, 2019
Status: Funded ($1,818,925)

GTEST – Geotechnology Experiences for Students and Teachers

GTEST will provide professional development in Geographic Information Systems (GIS) to science, technology and social studies teachers in Buffalo and Niagara Falls city school districts. It will research the effectiveness of using GIS as both content and a teaching tool for K–12 student learning and the extensive involvement of UB STEM graduate students in classrooms and after-school clubs.

Joseph A. Gardella, PI; Ling Bian, co-PI; Xiufeng Liu, co-PI; Sandro Sodano, co-PI; John Cerne, co-PI

National Science Foundation • Jan. 1, 2017–Dec. 31, 2019
Status: Funded ($1,199,127)
Increasing Access, Completion and Seamless Transfer Success Through the Development of Common Student Learning Outcomes, Diagnostic Assessment and Supportive Digital Teaching Resources for High Demand/High Impact Gateway Courses

A joint project between the four SUNY university centers (Albany, Binghamton, Buffalo and Stony Brook) to engage faculty teaching STEM gateway courses in developing common learning objectives, assessments and digital learning resources.

A. Scott Weber, PI; Xiufeng Liu, co-PI; Carol Van Zile-Tamsen, co-PI

SUNY Expanded Investment and Performance Fund (EIPF) • July 1, 2016–June 30, 2021

Status: Funded ($1,000,000 shared with three other SUNY university centers)

Inquiry-Based & Self-Directed Learning Opportunity to Support the UB Curriculum

An online learning community and badge-incentive process to explore and reflect on the use of emerging technology tools. Students will complete online discovery-based learning activities to prepare them to become participatory, collaborative and metaliterate citizens able to succeed in today’s global society and their future careers.

Roberta (Robin) Sullivan, PI

UB Professional Pathways Planning Grant • Sept. 1, 2016–May 31, 2017

Status: Funded ($10,000)

Research-Based Best Practices for Creation and Integration of Videos Into College Teaching

This project seeks to create a formal research-based pedagogy to educate faculty in best practices in creating and using videos for various instructional purposes. The video pedagogy will ensure that videos will be educationally meaningful, engaging and have professional quality.

Rebecca Rotundo, PI; Michele Messenger, co-PI; John Wild, co-PI; In-Gu Kang, co-PI; Carol Van Zile-Tamsen, co-PI

SUNY Innovative Instructional Technology Grants (IITG) • July 1, 2016–June 30, 2017

Status: Funded ($20,000)
**Telling My Story: Communicating with Digital Literacy**

Telling My Story will provide students who are within one to three semesters of completing their course work the opportunity to acquire the digital media skills needed to effectively tell unique stories online.

**John Wild, production lead; Melanie Green, faculty lead; Robert Orrange, student lead; Cathleen Morreale, assessment lead**

UB Professional Pathways Planning Grant • Sept. 1, 2016–May 31, 2017

Status: Funded ($10,000)

**Refereed Publications**


**CEI Reports**


**Conference Presentations**


Morreale, C. & Rotundo, R. (January 2017). Active learning strategies in an introductory leadership course. 16th Annual Niagara University Committee on College Teaching and Learning (CCTL), Niagara University, NY.


Rotundo, R. & Stephens, L. (September, 2016) FLEX Space: an example of use at a university. Presentation at the annual Campus Technology Conference, Boston, MA.


Sullivan, R. R. (December, 2016). *New features in Tools of Engagement Project (TOEP)*. Presentation at the SUNY Directors of Online Distance Learning (DOODLE) Days, Syracuse, NY.


Sullivan, R. R. (April, 2017). *Expanding your professional networks using social media*. Presentation for the University at Buffalo Faculty Senate and Professional Staff Senate Shared Governance, Buffalo, NY.


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Center for Educational Innovation

The Center for Educational Innovation (CEI) serves as a nexus for campus-wide efforts to further elevate the scholarship of, and research support for, pedagogical advancement and improved learning at the university.

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