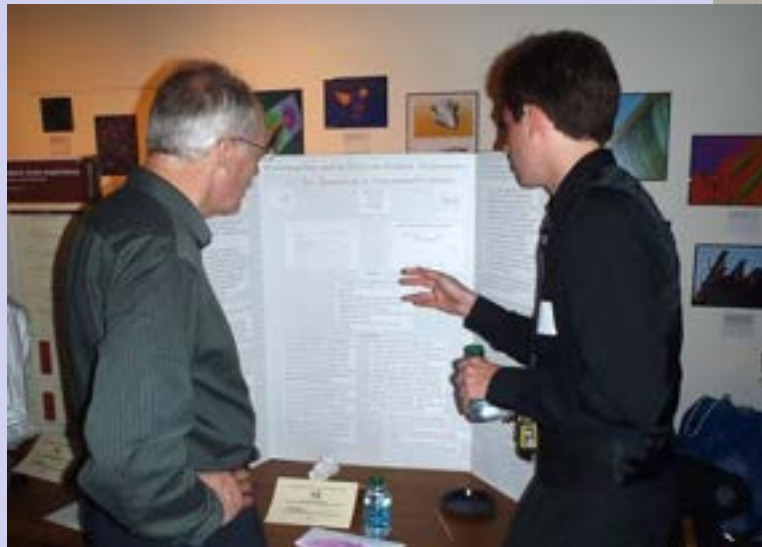


Searle Center for Teaching Excellence Annual Report 2010–2011



Searle Center
for Teaching Excellence



NORTHWESTERN
UNIVERSITY

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INTRODUCTION

Through its wide range of programs, services, research, and scholarship, the Searle Center for Teaching Excellence seeks to assist all members of the Northwestern community who are engaged in the promotion and facilitation of “cutting edge” learning of their students and colleagues – including faculty, graduate TAs and instructors, undergraduate peer mentors, clinicians, and administrators. Through its research and publications, the Center also engages in broad national and international conversations about what constitutes excellence in learning and teaching, and seeks to share new knowledge with those who teach in higher education. In this respect, the Center exists to facilitate teaching and learning at Northwestern that is informed by sound findings on how university learning happens best.

The Center comprises four areas: Faculty Programs, Graduate Student Programs, Undergraduate Programs, and Research & Evaluation, with an Associate Director leading each of these areas. We provide both one-off seminars, talks & workshops, designed to provide information and practical guidance on specific topics of learning and teaching, and long-term programs designed to prompt more profound changes in participants, such as our year-long Searle Fellows faculty program and our Graduate Teaching Certificate Program. We also provide a variety of services, including individual consultation and classroom analysis, as well as resources, including an extensive collection of books on teaching and learning housed in our Center Library. In the research area, we collaborate on a wide variety of projects with faculty, ranging from individual faculty experimenting with new teaching techniques to evaluation of large NSF- and NIH-funded programs.

In 2010–2011 we continued to implement additional aspects of the strategic plan we developed in 2010 and began implementing several funded projects we had won in the previous year. As a result we have, once again, seen both innovation in our programs and projects, and growth in participation of faculty, graduate and undergraduate students in them. In our faculty development area, for example, growth in participation resulted in innovations to the way in which faculty presented their work to their peers and colleagues through posters and panel discussions. In our graduate student area, further collaboration with the Graduate School has resulted in increased attendance to more than 300 grad students in the new TA conferences, and eight new Graduate Teaching Fellows. In the undergraduate area, collaboration with Academic Advising has developed new programs training peer tutors and expanding tutoring

services across the university. In our funded projects, we have successfully implemented and collaborated on implementing projects from Howard Hughes Medical Institute (HHMI), The National Science Foundation (NSF), and AmidEast (funded by USAID).

But this description barely touches the surface of the Center's output during the past year. I urge the reader to look at the information provided throughout the report in more detail.

— *Greg Light, Director*

Programs



PROGRAMS

The Searle Center provides a variety of programs for faculty, graduate students, and undergraduate students. These range from one-off workshop sessions to year-long programs designed to change participants' approach to teaching.

Programs for Faculty

Searle (Junior) Fellows Program

The Searle Fellows program is a comprehensive, year-long (eight month) faculty development program for pre-tenure, early career faculty. The program seeks to provide faculty with the expertise and knowledge to critically assess and solve problems in their courses. To participate in the program, applicants must provide a description of a teaching project related to a course they teach. In most cases, faculty are nominated for the program by deans or department chairs and self-select in or out according to their ability to participate in all program events.

The program has two main objectives: (1) to strengthen the participants' knowledge, understanding, and expertise in learning and teaching; and (2) to help them develop a project that will foster deep student learning. These projects usually focus on the development of a new course or curriculum, the revision of an existing course or curriculum, or the revision of a key assessment strategy in a course, curriculum, or other learning context. During the year, faculty participate in 4 dinner meetings, an overnight retreat in fall, a full-day retreat in spring, 3-4 workshops, 3 project meetings, evaluation activities (small group analysis of their class etc.), development of a project related to a course they are teaching, presentation of their project, and writing of a critical project account. Rick McGee, associate dean for faculty affairs in the medical school, helps facilitate the program.

This year, we changed how Searle Fellows present their final projects. Instead of relying mainly on PowerPoint, we asked participants to create posters to demonstrate themes found across their project groups.

Fifteen early-career tenure-line faculty completed the full program this year. Fifteen senior faculty served as their mentors. Of these, 3 were returning mentors, and 3 were former fellows.

Teaching, Learning & Technology (TLT) workshop series

In collaboration with Academic and Research Technologies, and the University Library, we offered six individual workshops (intended for faculty and graduate students) with two being offered twice. Each workshop focused on integrating different technologies into teaching. Several featured faculty presenters. The workshops included “Teaching with Social Media,” “Using BBoogle to Promote Collaboration,” “Using Concept Maps to Enhance Learning,” “Engaging Students with Clickers,” “Alternatives to the Research Project” and a 2-part series titled “Using Student Videos to Promote Collaboration and Engagement.”

We had 64 participants overall (faculty/staff, graduate students, and post-docs). Please see Appendix for details. Next year, we plan to offer workshops that better meet the needs of NU’s community, to address emerging technologies and improve overall attendance.

New Faculty Workshop

This year, we worked directly with the Office of the Provost, offering our regular workshop as part of a three day series for new faculty. This full day interactive session included an overview of learning, course design, teaching approaches, and assessment. We also offered a session with Academic Research and Technologies staff, one resource panel with undergraduates, and one with representatives from various campus divisions (CAPS, Athletics, disabilities, and academic integrity), and a student panel. Eighteen new faculty participated in the program. After receiving feedback from faculty participants, and upon reflection with the Office of the Provost, we have decided that in 2011 we will go back to our previous stand-alone structure.

Faculty Workshop Series

We offered 14 workshops this year, focusing on a range of topics including general course design, lecturing in large classes, motivating students, writing the pedagogical component of a grant proposal, assessment and grading, and course evaluation. Two of these workshops were offered on the Chicago campus to accommodate the large number of Feinberg faculty interested in attending our programs.

An average of 9 faculty members attended each session, representing a wide range of schools and departments. Responses to the workshops were positive; the average overall rating on post-workshop evaluation forms was 4.2 out of 5. Please see Appendix for a listing of all workshops and participant numbers.

New in 2010–2011 was a 3-part workshop series on assessment, as well as a workshop on mentoring graduate students.

Our main goal for the coming year in the Faculty Workshop series is to introduce new topics and approaches, including critical thinking and a hands-on active-learning workshop. We also hope to offer some of our workshops online.

Specialized Workshops

- Genetic Counseling Program: Inquiry Learning and Designing Exam Questions (25 participants)
- School of Continuing Studies: Designing a Learner-Focused Experience (35 participants)
- MEd program (SESP): Integrating Technology and Teaching (11 participants)

NEW: Faculty Development for Biological Sciences Redesign

The Searle Center is working with the WCAS Program in Biological Sciences (PBS) to redesign the introductory biological sciences sequence, BiolSci 215-218 and 220-220, in line with the goals of the HHMI grant awarded to the University last year. The new lecture and laboratory classes will actively engage students in the process of scientific discovery, focus on deep understanding of basic concepts and analytical reasoning, and will integrate across disciplines. The classroom environment will change to one that focuses on student learning and fosters active student engagement through problem solving activities, case studies, and inquiry-based laboratories.

To achieve this goal, the Searle Center organized a full-day retreat and follow-up workshops on modern pedagogical methods, course design, active learning, and scientific teaching specifically geared toward the curriculum revision. We are collaborating with 10 faculty (from PBS, Molecular Biosciences, and Neurobiology and Physiology) and 11 graduate students and postdoctoral fellows from various biology departments/programs who are serving as teaching fellows in the course development process. The Searle Center will host a number of additional workshops in the fall and will continue to provide support for course development in the academic year of 2011–2012.

University Teaching Roundtables (UTR)

The UTRs are sponsored by the provost and hosted by the Searle Center for Teaching

Excellence. Each roundtable—meant to be an interdisciplinary forum exploring current topics in teaching and learning—is led by a Charles Deering McCormick Professor of Teaching Excellence, a McCormick Distinguished Lecturer, or an Alumnae of Northwestern Teaching Professor, the highest awards for teaching offered by the university. Recipients are appointed as fellows of the Searle Center and contribute to Searle events. This year, 5 award recipients attended a luncheon with Searle Center staff and led discussions for faculty through the University Teaching Roundtables. One who had been deferred from AY10-11 delivered her session. Please see Appendix for details.

Roundtables/Brownbags

Teaching in a Globalized Classroom. In collaboration with the International Office, the Searle Center hosted a roundtable focusing on teaching in a globalized classroom. Approximately 12 people (faculty/grad and 1 UG) attended.

Mentoring Across Northwestern: Lessons Learned from Bringing Undergraduates and Graduates together. This session was presented by Dan Gruber, assistant professor in Medill (IMC) and the recipient of one of our innovative teaching awards in 2010–2011. 5 people attended.

Programs for Graduate Students

The Center produces a number of programs for graduate students to support their development as teachers throughout their graduate career. We train graduate students as new TAs, offer continuing support as they develop their approach to and practice of teaching, and provide extensive preparation for teaching at the college and university level.

New TA Conference

This one-day conference, held every fall the week before classes begin, prepares graduate students for their first teaching experiences as TAs. This year the conference included 16 discipline-specific workshops to orient TAs to their roles and responsibilities, as well as 12 sessions on topics such as active learning and teaching with technology. All workshops are developed and facilitated by trained graduate students, known as Teaching Assistant Fellows (TAFs) and Graduate Teaching Fellows (GTFs). Two-hundred ninety one new TAs attended this past September. On a 5-point scale, the average evaluation rating for the conference sessions was 4.3.

Our primary goals for the coming year are:

- Increase participation (and retention) numbers by shortening the day by 90 minutes, resulting in a more manageable schedule.
- Restructure the program to integrate guidance on promoting active learning into the discipline-specific sessions.
- Restructure the program to offer simultaneous sessions on the same topics to allow for smaller sections and increased engagement of participants.

Graduate Workshop Series

To provide continuing support to TAs and graduate students generally, we offer interactive workshops throughout the year. Workshops are developed and facilitated by Center staff as well as trained Graduate Teaching Fellows. This year we offered 9 workshops on topics such as “Marketing Your Teaching” and “Grading Assignments and Assigning Grades.” One hundred sixty graduate students attended throughout the year, with a range of 5-30 students at each session. On a 5-point scale, the evaluation average for this series was 4.4.

Teaching, Learning, and Technology

This series is a joint effort of the faculty and grad student areas. Seven workshops were developed and facilitated in partnership with staff from Academic and Research Technologies and the Library, the aim of which are to introduce technology-based methods and prompt reflection on how best to incorporate them into one’s teaching. Fifteen graduate students participated this year, and the average evaluation rating was 4.2 (including faculty). Our primary goal for next year is to offer additional sessions to address emerging technologies.

Teaching Assistant Fellows (TAF) and Teaching Consultants (TC)

The TAF program provides the opportunity for graduate students to develop and implement workshops on teaching and learning at the New TA Conference (see above). They are trained in facilitating teaching and learning workshops, and develop their sessions over the summer. Fifteen TAFs participated this year. The primary goal for next year is to update training to reflect more recent literature on teaching and learning, including changing readings, developing new activities and further refining the program website.

Outstanding TAFs are appointed as Teaching Consultants and receive further training in classroom practice and observation. They conduct Small Group Analyses (SGAs) for faculty and graduate students. We employed 8 TCs this year.

Graduate Teaching Certificate

This twelve-month program prepares graduate students to teach at the university level through workshops, seminars, a teaching project, and the development of a teaching portfolio. It is the only program at the Center that offers a Certificate of Achievement to acknowledge that work is evaluated by Center staff. The Center and The Graduate School jointly funded 5 part-time Graduate Teaching Mentors who assisted the Associate Director by running project groups, providing feedback and guidance to students, and helping with general program coordination. Fifty-one students participated this year.

Our primary goals for the coming year are:

- Accommodate another large increase in participants (80) while maintaining the same level of mentorship and a format that allows for productive discussions. Toward this end, we are bringing on an additional Graduate Teaching Mentor, funded by The Graduate School. With the assistance of two Graduate Assistants, the Associate Director will also run 4 seminars on each topic, rather than the 3 that were offered this year.
- Continue the evaluation of this program.
- Explore models for accommodating increased enrollments.

Graduate Teaching Fellows

The Graduate Teaching Fellows (GTFs) are a cadre of graduate students with a demonstrated commitment to teaching excellence who wish to further develop their teaching and professional skills, and contribute to the pedagogical development of their fellow graduate students.

Appointed for a full academic year, with the possibility of reappointment in subsequent years, GTFs work with the Searle Center to produce programming and resources to improve teaching by graduate students at Northwestern. Selected in the spring via a competitive application process, the Fellowship comes with a stipend of \$3000, funded by The Graduate School.

This was the first year for the program. Among other activities, the GTFs each developed workshops for the New TA Conference and the Graduate Workshop Series, as well as

developed discipline-specific projects aimed at providing mentorship and improving the teaching of graduate students in their home departments. The GTFs were also used to roll out a new Teaching Observation (TO) program for graduate students. Available beginning in Winter 2011, the GTFs conducted 16 TOs. On a 5-point scale, the evaluation average for this program was 4.7.

Our primary goals for the coming year are:

- Develop and implement a workshop series aimed at addressing the concrete challenges faced by early TAs, tentatively titled “Troubleshooting Your Teaching.”
- Increase the number of workshops offered by the GTFs.
- Increase the number of TOs conducted by the GTFs.

Teagle Fellows Project

In collaboration with The Graduate School, the Searle Center offered a TA development program this year, funded by the Teagle Foundation. The program was designed to provide TAs who are instructors for the discussion sections of large lecture classes with in-depth exposure to teaching, learning, and assessment scholarship. All Teagle Fellows — drawn from large introductory courses in each of biology, political science, and Slavic studies — were required to participate in a two-day preparatory fall training workshop. Before their teaching quarter began, TAs collaborated with teaching mentors (trained, advanced graduate students) to plan teaching and assessment strategy. The training workshop received an average evaluation rating of 6.28 on a 7 point scale. We will continue to collaborate with The Graduate School on this project as Teagle rolls out the next phase.

Departmental Workshops and Other Interventions

In addition to our regular programs, we worked with interested departments and programs to provide workshops aimed specifically at their particular interests. These included a session on how to develop teaching practices as a graduate student for the School of Music, a workshop on developing a statement of teaching philosophy for the English Department, and a session on course design held in one of the graduate student residential halls. We also provided individual consultations to numerous graduate students and post-docs on issues such as classroom management for TAs and course design.

In partnership with The Graduate School and faculty from McCormick, we also applied and were admitted to the Center for the Integration of Research, Teaching, and Learning (CIRTL) Network.

Programs for Undergraduate Students

Gateway Science Workshop (GSW) program

The Gateway Science Workshop (GSW) is a peer-led program designed to promote performance and retention of students in introductory “gateway” course sequences in chemistry, biology, math, physics, and engineering. Students attend weekly sessions in groups of 5 to 7, in which they tackle challenging course-related problems, which are developed by course faculty. They are led by a student facilitator who has previously done well in the course.

Workshops are offered for Biology 210, Chemistry 101-102-103, Engineering Analysis, Math 220-224-230 and 212-213-214, and Physics 130 & 135. During 2010-2011, we had 1148 registrations, served 22 individual classes, and worked with 17 faculty members and 5 graduate students. (See Appendix for a breakdown of student registrations by discipline.)

Our key goals for the coming year are the following:

- Create a system for organizing all GSW worksheets in order to provide an accurate and complete historical record of problems used over time. The worksheets will be catalogued electronically.
- In order to gain a better understanding of weekly-meeting dynamics and best practices, observational data will be analyzed and feedback provided to faculty and facilitators. This project will inform decisions to encourage consistency across disciplines or maintain discipline-specific distinctiveness.
- Focus groups will be conducted with facilitators and students to gain a better understanding of challenges problem sheets pose in workshops. Currently, a broad variety of worksheets exist within and across disciplines (depending on the nature of the course and the perspective of the instructor). This project seeks to help define what a “good” worksheet problem looks like, and provide guidelines for faculty.
- Student–faculty interaction is highly desirable to GSW facilitators. Since most of the current

interaction is in weekly meetings and very task-oriented, the program seeks to incorporate some informal events to increase relationship building between faculty and students. An example of such event would be an end-of-quarter meal.

- More social interaction among facilitators is also desirable to GSW facilitators. Since most of the current interaction between facilitators is academically focused, the program seeks to create a committee of facilitators to advise the program on social or other events to help promote a sense of community among facilitators.
- The program seeks to create stronger bonds with faculty involved with GSW. Opportunities to connect with faculty will be explored in order to exchange ideas and information and for purposes of sharing evaluation results.
- Senior facilitators will take more of a leadership role in the coming years, as the program seeks to focus more on the leadership development of each senior facilitator. The role of the senior facilitator will also expand, as they will soon participate in observations of their first-year facilitators and play an active role in the recruitment and interviewing of new facilitators.
- GSW remains committed to increasing the number of URM students who participate in GSW workshops. The program hopes to find new opportunities to connect with underrepresented populations on campus and continue existing efforts to connect with students through academic/social groups and through programs such as EXCEL and BioEXCEL.

Facilitator Training Program (SESP 291)

SESP 291 is a one-credit course taken over three academic quarters, offered through the School of Education and Social Policy. All first-year GSW facilitators are required to enroll. The course is designed to provide facilitators an opportunity to develop their knowledge, understanding, and practical skills in mentoring and in facilitating groups within the practical requirements of the GSW program. Course goals are to introduce facilitators to the literature on learning and teaching; to familiarize facilitators with pedagogical methods relevant to mentoring and small-group facilitation; to provide them with the opportunity to discuss, reflect on, and enrich their facilitation experience in a way that enhances their workshop practice; and to encourage them to establish a supportive community among their students and fellow facilitators.

SESP 291 students also engage in a group research project, investigating a genuine

pedagogical problem related to the GSW program. At the end of the year, students present their projects and findings at a poster fair.

60 students enrolled in SESP 291 during 2009–2010.

Science Research Workshop (SRW) program

The Science Research Workshop (SRW) program is an apprenticeship-style program designed to encourage undergraduates to major in science by engaging them in authentic scientific research during their early years of study at Northwestern. The workshops are made up of two main sections: 1) a faculty-led “science café” and 2) a peer-led workshop. Science cafés consist of a 30-minute discussion in which science faculty with extensive research experience relate motivating stories about science, conducting scientific research, and their experience as undergraduates, graduate students, and young professionals conducting research. The topics of the science café take students through the initial stages of the research process, from contacting a lab to learning how to write an undergraduate research proposal. The workshops are led by peer facilitators, or senior undergraduate students, who have prior research experience and facilitation skills. The workshops are focused on developing an independent research project and writing a research proposal. By the end of the program all participants are expected to have confirmed a lab placement for the summer and submitted a proposal for independent summer funding to either a University-based funder, such as the Undergraduate Research Grants Committee or the Weinberg College of Arts and Sciences, or an outside funder, such as the NSF Research Experience for Undergraduate grants.

In 2010–2011, 24 students completed the SRW program. Twelve of these students won Undergraduate Research Grants (1 declined), 3 won WCAS summer grants (2 declined), 3 won a PBS grant (1 declined), 1 won an REU grant, and 1 won a Lambert fellowship. (Note: Except for one, who declined for personal reasons, students who declined did so because they had received other funding.)

Ongoing evaluation demonstrates increased confidence among SRW participants in engaging in research, as well as increased interest in a science career. (See the Research and Evaluation section of this report for details on the SRW evaluation).

Goals for the fourth year of the SRW program include the following:

- Successfully sustaining what works in the current model, including recruiting more students from existing disciplines; expanding the program to other disciplines; helping all interested students secure a lab by the beginning of the winter quarter when workshops begin; having a faculty feedback session near the end of the program so students can get substantive feedback on their proposals; and further improving our success rate winning funding from the URG committee and other University funders.
- Challenges to address for the next year include securing permanent funding to sustain the program; making further adjustments to the curriculum to streamline the proposal-development process; working with faculty speakers to further refine the focus of their talks; and providing greater assistance to students during the period of graduating from the program and securing summer funding.

NEW: Gateway Program in Biology Labs

The Searle Center is working in collaboration with the WCAS Program in Biological Sciences (PBS) to revamp the GSW program in line with the goals of the HHMI grant awarded to the University last year. In keeping with the goals of the grant to promote active learning in introductory biology courses, the GSW format will move to lab courses beginning in 2012–2013. Undergraduate peer leaders will be trained to guide small groups of their peers through lab sessions designed to engage students in active, conceptual thinking, rather than taking a more traditional “cookbook” approach to lab work. These small-group discussions will focus on the process of science, including structuring testable hypotheses, designing controlled experiments, analyzing data, and drawing conclusions from them. The Searle Center will continue to work closely with PBS faculty over the coming year to ensure that the program gets off the ground successfully and meets the goals of the larger initiative.

NEW: Student-Organized Seminars Leader Training Program

This year, the Searle Center began providing training for undergraduates who lead student-organized seminars (SOSs). These seminars are student-created, student-led, credit-bearing courses, sponsored by a faculty member in the relevant department, and offered through the School of Communication, the School of Education and Social Policy, and the Weinberg College of Arts and Sciences. Undergraduate SOS leaders gain depth of knowledge of their seminar topic, as well as valuable leadership, organizational, and mentoring experience.

The Searle Center training program focuses on developing leaders' understanding of teaching and learning concepts, ability to effectively facilitate learning for individuals and groups, and skill in using reflection and feedback for continuous improvement.

NEW: Undergraduate Teaching and Learning Committee

The Searle Center launched its Undergraduate Teaching and Learning Committee in spring 2011. Composed of undergraduates from a variety of Northwestern schools, majors, and academic years, the Committee exists to

- give undergraduates an informed voice in the larger teaching and learning discussion at Northwestern
- provide responsible undergraduate feedback to faculty and graduate students about teaching
- create a dialogue among undergraduates about teaching and learning
- include an undergraduate perspective in Searle Center programs
- develop undergraduate-driven teaching-and-learning resources to benefit the University community
- help create a University culture in which undergraduates are both learners and facilitators of learning

The Committee has 9 members who will stay on for the 2011–2012 academic year. Members will work in small groups to develop teaching-and-learning-oriented projects geared toward benefitting the Northwestern community.

NEW: Academic Support Programs & Services Initiative

In collaboration with the University Academic Advising Center, the Searle Center has worked to pilot a small-group tutoring program in Economics, with the expectation that additional disciplines will be added incrementally. The first pilot groups will meet in fall 2011. The Searle Center will oversee training of peer mentors as well as evaluation of the pilot program. See the University Academic Advising Center annual report for details of this initiative.

Services



SERVICES

The Searle Center has continued to develop the teaching and learning services it provides for faculty across all the schools and colleges of the University.

Services for Faculty & Instructors

Small-Group Analysis (SGA)

In small-group analysis, Center staff and trained graduate-student Teaching Consultants (TCs) conduct a structured focus group with students in a class, and provide instructors detailed and candid feedback during a follow-up meeting. In 2010–2011, 70 SGAs were performed for faculty and graduate-student instructors.

Structured Observation

In structured observations, Center staff and teaching consultants observe an instructor's teaching, taking detailed notes about key areas, including student engagement, critical thinking, and effectiveness of teaching approaches. Includes follow up consultation; sometimes combined with SGA. We conducted 12 structured observations during the 2010–2011 academic year.

Individual Consultation

The Center provides individual consultations to faculty and other instructors at the University. These are often carried out in conjunction with either an SGA or structured observation, or in response to end-of-term course evaluations. They can also be stand-alone or on-going meetings to engage in a variety of teaching, curriculum planning, and grantwriting activities, for individuals or in campus units.

Searle Center senior staff worked individually with approximately 60 faculty members this year, consulting on issues of teaching, assessment, and grantwriting. These included individuals from Feinberg, SESP, Music, McCormick, Medill, Communication, SCS, Kellogg and WCAS.

Innovative Grants for Teaching

The grants are designed to support faculty, staff, post-docs and graduate students who wish to experiment with new ways to help students learn.

The Searle Center awarded a grant to Dan Gruber, a faculty member in Medill who wished to have graduate students mentor undergraduates across two disciplines. We also awarded a

grant to Bob Holmgren, a faculty member in Molecular Biosciences, for a study of student understanding of chromosome segregation.

Services to the University and Broader Community

Library

The Center continues to add to its holdings (books, articles, journals, and DVD/videos), providing faculty/staff and graduate students with easy access to the rich and growing literature on teaching and learning. We now have over 1000 holdings. The articles and books include both the research literature on teaching and learning and the reflective writings of scholars who teach. All books have been catalogued into the electronic database which is now available for electronic searches through our website: northwestern.edu/searle/services_and_resources/center_library.html

This year, we have continued to catalogue our holdings in storage, and donated more materials to the University Archives (including video recordings of University Teaching Series events, foundational materials, professional correspondence, etc.).

Website

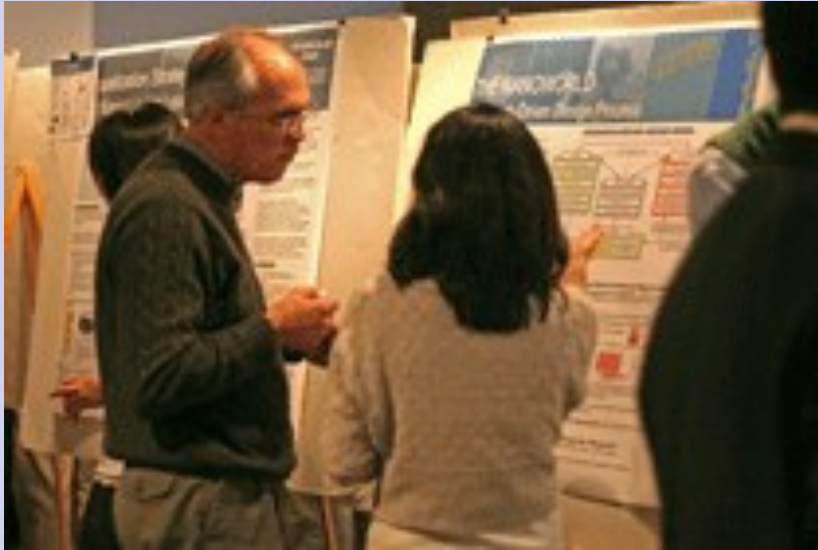
We updated the Center website in 2010 by editing and revising the “Teaching and Learning Links” page to replace and update broken links and to provide a more intuitive organization. To view the resource, see northwestern.edu/searle/resources, and click on “Teaching Strategies & Materials.”

From July 2010 to July 2011, we had 24,214 visits to the website, from 110 countries/territories.

Twitter Account

The Center launched a Twitter account in December 2009 in order to promote Center programs and events, share dissemination news, and link to compelling articles on teaching and learning in the media and scholarly publications, among other functions. The Center tweets an average of once a day and has garnered 294 followers. The account was included in 32 Twitter lists. The Twitter account can be found at twitter.com/searleteaching.

Research & Evaluation



RESEARCH AND EVALUATION PROJECTS

The Center is involved in a variety of research and evaluation projects on teaching and learning in higher and professional education. Whilst some of the projects are undertaken independently by the Searle Center, the majority involve collaborations with faculty, often across multiple departments. Activities in this area include conducting research studies, evaluating programs and assisting faculty with writing of the pedagogical components of grant proposals to funders such as the National Science Foundation (NSF) and the National Institutes of Health (NIH).

Ongoing Projects

Ongoing Research Projects in Undergraduate Education

Gateway Science Workshop (GSW) Program Impact: This project, investigating the impact of a small-group learning program on performance and retention of undergraduates in STEM disciplines, commenced in 2001 and was originally funded by a 6-year grant from the Andrew W. Mellon Foundation. The program and program evaluation continues through funding from Northwestern and analysis of data on course grades and retention continues. We have continued to build a database, now pooling data from nearly 10 years. These pooled analyses revealed a consistently positive impact of the program on course grades and retention, with larger retention effect sizes seen for minority students in several courses. A paper presenting these 10-year results is underway. This year, we collaborated with faculty in the Mathematics Department to evaluate the effectiveness of a new set of interdisciplinary worksheet problems. While there was no change in the key variable of interest (viewing math as useful), math anxiety dropped over the term for workshop students more so than for nonworkshop students, and this was particularly true for those in the lower grade quartiles.

Engineering Workshop Program (EWP): Completed its eighth year. McCormick School of Engineering continues to fund this extension of the GSW program and its evaluation in engineering. Evaluation continues to focus on performance and retention. An analysis of pooled data was also conducted for EWP. As with GSW, positive effects of the program were seen.

Science Research Workshop Program (SRW): A fifth year of funding has been received from the National Science Foundation. Twenty-four students participated in the program this year, including 17 majoring in biology, 5 in chemistry and 2 in materials science. Nineteen students

received funding and conducted summer research, including 12 URG winners (1 declined), 4 REU winners, 3 WCAS summer grant winners (2 declined), 3 PBS grant winners (1 declined), and 1 Lambert Fellowship winner. A survey on research self-efficacy was administered at the beginning and the end of the program, and the data are currently being analyzed. We anticipate, however, that the results will be similar to previous years' findings, i.e. SRW participants had significantly higher gains in both their perceived ability to conceptualize research tasks and their ability to engage in early research tasks. More importantly, SRW participants repeatedly reported that the program allowed them to gain a taste of what it is like to conduct scientific research and to pursue a science career, which in turn helped enhance their interest in science and research.

Student Conceptions of International Experience (SCIE): To better understand students' international experience through study abroad, the Buffett Center for International and Comparative Studies and the Searle Center for Teaching Excellence launched a collaborative project in the summer of 2007 called the Student Conceptions of International Experience (SCIE). A phenomenographic study of undergraduate students' conceptions of international experience was conducted. Based on the results of that study, a 70 item survey instrument to assess students' conceptions of and approaches to international experience was developed. The instrument was piloted in June 2010 and is currently being revised based on the results of statistical analyses and feedback from experts in the area of study abroad. A new 45-item version of the survey will be piloted in the fall of 2011.

Mellon-Mays Undergraduate Fellowship Program Evaluation: The Searle Center is managing the evaluation of this program, for which Northwestern was awarded \$500,000 over 5 years. The program aims to increase the number of minority students who pursue PhDs in the humanities and social sciences. The goals of this primarily qualitative evaluation are to better understand students' experiences in the program, including their development as academic researchers, their relationships with faculty mentors, and their general satisfaction with the program structure and policies. Evaluation is ongoing. This year all current students were interviewed and surveyed; data collection and analysis will continue for another year.

Evaluation of Personal Response Systems in Calculus: This project involves a collaboration between Dr. Martina Bode from the Math Department, the Searle Center, and Academic & Research Technologies. Over the past 5 years we have investigated students' perception of learning with

clickers in calculus. In general, students report that they are more engaged in classes and retain more information in classes with clickers. Previous research focused on overall experience of students in the class. An analysis of the experience of males and females in the class is currently being conducted as it is possible that males and females may respond differently to the competitive environment that has been created in the class by having teams compete against each other.

Relationship between Math Preparation and Performance and Performance in Freshman Chemistry:

This project is a collaboration between the Searle Center and Professor Martina Bode from the Math Department and Professors Shelby Hatch and Fred Northrup from the Chemistry Department. Chemistry faculty hypothesized that poor calculus skills may underlie poor performance and retention in the freshman chemistry sequence. To test this hypothesis, data on students' academic preparation (SAT, AP and ACT scores) and their performance in calculus classes have been merged with data on their performance in the Chemistry 101 course series for the 2007–8, 2008–9 and 2009–10 academic years. Multiple regression analyses revealed that academic preparation in math as measured by Math SAT/ACT scores and performance on a pre-course calculus exam (ALEKS) test are strong predictors of both performance and retention in Chemistry 101.

Ongoing Research Projects in Faculty/Instructor Development & Learning

Searle Fellows: Research over the past 7 years has focused on participants' conceptions of teaching, learning, research and mentoring and on how faculty understand relevance in their teaching. A new research agenda for this program is currently being formulated.

Enhancing Critical Thinking in STEM Disciplines: A Faculty Development Model: (NSF: Course, Curriculum and Laboratory Improvement (CCLI) award \$220,000 over 3 years). This project is a collaboration between the Searle Center and the City Colleges of Chicago (CCC) to design, pilot and study a Science, Technology, Engineering, and Mathematics (STEM) faculty development program focused on improving higher order learning outcomes of STEM students. Twenty STEM faculty – 10 faculty from each institution have been recruited for the project which aims for faculty to i) develop their learning, teaching, and assessment practices to facilitate higher order student learning outcomes; ii) redesign an existing course or develop a new course that implements these new learning and teaching practices. The project also aims to improve

STEM students' higher order learning outcomes. The baseline data collection phase of the project is currently underway. Syllabi for the courses being taught in the project are being collected and analyzed, and faculty are completing Approaches to Teaching and Conceptions of Assessment inventories. In addition, faculty are being interviewed about their conceptions of critical thinking. In March, the 10 faculty from CCC participated in a workshop on the Critical Thinking Assessment (CAT) test and began developing their own course specific critical thinking test items. Northwestern faculty will participate in the same workshop August 18th and 19th and will also develop course specific test items. Workshops on approaches to teaching critical thinking are planned for the winter of 2012.

National Science Foundation: Center for Biophotonics, Science & Technology (CBST): to promote the performance of cutting-edge, fundamental research and improve the quality of science and mathematics education. Completed the 9th of a 10 year funding.

Ongoing Research Projects in Graduate Education

National Institutes of Health: Mentoring for Success: Developing Fundamental Skills for Biomedical Research: We completed the fifth year of a 5 year, \$1.7 million project to increase the number of students from underrepresented backgrounds who are admitted to and retained in doctoral programs in the biological and life sciences at Northwestern. The Center continues to play an important role in both program design and evaluation. Our evaluation results suggest that the program has been extremely successful with substantial increases recorded in the number of underrepresented students admitted to doctoral programs in the biological and life sciences and very high retention rates of CLIMB (Collaborative Learning and Integrated Mentoring in the Biosciences) students. Funding for this program has been renewed by NIH for an additional 3 years.

National Institutes of Health: T32 Training Grants: The Center is currently involved in evaluation of doctoral training grant programs in the Cellular and Molecular Basis of Disease (CMBD), Biophysics, Biotechnology, Endocrinology and Mechanisms of Aging and Dementia (MAD). In addition the Center designed evaluation plans and developed survey instruments for renewal proposals for training programs in Biophysics, and Neuroscience training programs.

Teagle Fellows Project: The Teagle Fellows at Northwestern project was designed to provide Teaching Assistants (T.A.s) who are instructors for the discussion sections of large lecture classes

with in-depth exposure to the theory and practice of the most up-to-date teaching, learning, and assessment scholarship. The Approaches to Teaching Inventory was administered to Teagle Fellows prior to beginning the program and during the quarter after the program ended. In addition, a sample of 47 T.A.s who were not Teagle Fellows, but who attended a one-day T.A. training workshop for all university T.A.s, was also selected to complete the ATI to serve as a comparison group. While we did not see a significant change on the Conceptual Change scale, we did see a significant decrease on the Information Transmission scale for both groups from pre-program to post-program, which suggests that participants exited the program with a less teacher-focused approach to teaching. We did not see significant differences between the Fellows and other T.A.s, most likely due to the very small sample of Teagle Fellows.

New Grant Funded Projects

Howard Hughes Medical Institute (HHMI) Grant: (\$2,000,000 over 4 years). This project is a collaboration between the Howard Hughes Medical Institute and Northwestern University to undertake a major reform of its undergraduate biological science training program by emphasizing inquiry-based learning and by introducing students early on to the compelling realities of laboratory investigation, providing a research-informed context for scientific learning from the first months of matriculation through graduation. The evaluation plan for this program has been finalized and baseline data are now being collected.

Palestinian Faculty Development Program: (USAID/AMIDEAST/Open Society; \$200,000 over 2 years). The Center is partnering with An-Najah University in Nablus in the West Bank as part of a program to increase the use of student-centered teaching at An-Najah University and in Universities in the West Bank more broadly. An-Najah University has established a Center for Excellence in Learning and Teaching (CELT) and is using a train-the-trainer approach to develop a cadre of faculty who will deliver workshops on teaching and learning to An-Najah faculty. In July 2011, Searle Center staff (Greg Light, Susie Calkins, Joe Lampert and Denise Drane) traveled to An-Najah University and co-facilitated workshops on course design, assessment, active learning/critical thinking, problem-based learning and e-learning. Staff from CELT and the Searle Center will be co-presenting 3 research papers on the project at upcoming Professional and Organizational Development (POD) and International Society for the Scholarship of Learning and Teaching (ISSOTL) conferences in October, 2011.

New Projects

Social-Comparison Concern Intervention Project: This project was based on a study we conducted last year, in which we found that students in a small learning group program who had dropped the program reported feeling more concerned about social comparison than students who stayed in the program. For students who stayed in the program, feeling a lack of comfort making mistakes and feeling concerned about being compared to others were negatively related to final grade in the course, even after accounting for initial differences in GPA. The current project used a social-psychological intervention to attempt to reduce social-comparison concern in small learning groups. Over the course of an academic quarter, 144 students in 33 small learning groups participated; one-third received an intervention designed to reduce social-comparison concern, one-third received a study-skills intervention, and one-third received no extra resources. Students in the intervention (primary treatment) groups received information on and participated in discussion about malleability of intelligence and persistence through academic difficulty; the study-skills (secondary treatment) groups received materials on study skills and tips for success in college. Social-comparison concern of students in the primary treatment group was reduced over the course of the intervention, while scores of students in the control groups increased. Minority students in the primary treatment group scored better on course assessments than minority students in the control group.

Student-Faculty Relationship Study: We engaged this year in a study of the student-faculty relationship in highly challenging courses. Using existing data from a project in organic chemistry, we examined surveys from 113 undergraduates in six organic chemistry courses to examine the relationship of student–faculty relationship to grade, course confidence, and sense of science identity. Student–faculty relationship positively predicted grade as well as confidence, but not science identity.

Brady Scholars Program Evaluation: The Searle Center was asked to conduct a formative evaluation of the Brady Scholars Program, a three-year program on ethics and civic life for Northwestern undergraduates. A combination of interviews, focus groups, and surveys were conducted with 26 current and former Program students. Reports and recommendations were provided to the Program administrators.

Assessments of Faculty Course Innovations

- Evaluation of mentoring component found in two courses taught by Dan Gruber, faculty member in Medill (IMC)
- Evaluation of Theatre and Engineering Course (Martha Tanner)
- Assessment of language gains for international students who paired with American undergraduates (Matt Grayson's summer program)

Grant Writing Assistance

The Center has assisted faculty with the preparation of proposals to external funders over the last year. These include NSF Early Career Grants, NSF IGERT and NIH T32 proposals. To enhance the grantwriting capacity of Northwestern faculty, the Center continues to offer yearly workshops on how to write the pedagogical and evaluation sections of grants.

Dissemination



ACADEMIC PUBLICATIONS, PRESENTATIONS, & AWARDS

Publications

Manuscripts Under Review

Light, G. & Micari, M. *Opening the gates to science: What the best science students do*. Book manuscript under contract with *Harvard University Press*.

Micari, M., & Pazos, P. *Connecting to the Professor: Impact of the Student–Faculty Relationship in a Highly Challenging Course*. *College Teaching*. Under revision.

Publications 2011

Calkins, S. & Seidler, A. Faculty perceptions of relevance in teaching and learning. (In press.) *International Journal of Teaching and Learning in Higher Education*.

Case, J. & Light, G. (2011). Emerging methodologies in engineering education research. *Journal of Engineering Education*, 100(1),186-210.

Micari, M., & Drane, D. (2011). Intimidation in small learning groups: the roles of social comparison concern, comfort, and individual characteristics in student academic outcomes. *Active Learning*.

Pazos, P., Chung, J., & Micari, M. (In press.) Instant Messaging as a Task-Support Tool in Information Technology Organizations. *Journal of Business Communication*.

Streitwieser, B., & Light, G. (In press). When undergraduates teach undergraduates-conceptions of and approaches to teaching in a peer-led team learning intervention in the STEM disciplines: Results of a two year study. *International Journal of Teaching and Learning in Higher Education*.

Swarat, S., Light, G., Park, E-J., & Drane, D. (2011). A typology of undergraduate students' conceptions of size and scale: Identifying and characterizing conceptual variation. *Journal of Research in Science Teaching*.

Publications 2010

Ben-David Kolikant, Y., Drane, D., & Calkins, S. (2010). Clickers as catalysts for transformation of both students and teachers. *College Teaching*, 58(4),127-135.

Calkins, S., & Micari, M. (2010, fall). "Less-Than-Perfect Judges": Forty years of discourse on the value of students rating teachers in higher education. *Thought and Action*, 7–22.

Calkins, S., & Drane, D. (2010). Engaging faculty in conversations about teaching through a research proposal workshop. *To Improve the Academy*, 28, 265-277.

- Calkins, S. & Seidler A. (in press). Faculty perceptions of relevance in teaching and learning. *International Journal of Teaching and Learning in Higher Education*.
- *Lucas, G. M. (2010). Initiating student-teacher contact via personalized responses to one-minute papers. *College Teaching*, 58, 39-42.
- Micari, M., Knife Gould, A., & Lainez, L. (2010). Becoming a leader along the way: Embedding leadership training into a large-scale peer-learning program in the STEM disciplines. *Journal of College Student Development*, 51(2), 218-230.
- Micari, M., Pazos, P., Streitwieser, B., & Light, G. (2010). Small-group learning in undergraduate STEM disciplines: Effect of group type on student achievement. *Educational Research and Evaluation*, 16(3), 269-286.
- **Mwangi, E. (2010). Participatory Deep Learning in a Diverse Class on Minority Literatures. *Multicultural Perspectives* (12) 2: 91-96.
- Park, E-J., & Light, G.(2010). Identifying a potential threshold concept in nanoscience and technology: Engaging theory in the service of practice. In J.H.F. Meyer, R. Land, & C. Bailie (Eds.), *Threshold concepts and transformational learning*. Rotterdam Sense Publishers.
- Pazos, P., Micari, M., & Light, G. (2010). Developing an instrument to characterize peer-led groups in collaborative learning environments: Assessing problem-solving approach and group interaction. *Assessment and Evaluation in Higher Education*, 35(2), 191-208.
- Streitwieser, B., Light, G., & Pazos, P. (2010). Entering the community of practitioners: A science research workshop model. *Change Magazine*, May/June 2010.
- Swarat, S. (2010). Sources of interest in school science. Reports from middle school students. *Academic Exchange Quarterly*, fall 2010.
- Swarat, S. (2010). The effect of curricular elements on student interest in science. *Proceedings of the International Conference in the Learning Sciences*, Chicago, Illinois.
- *Gale Lucas (Psychology) was a 2008–2009 participant in the Center’s Graduate Teaching Certificate Program.
- **Evan Mwangi (English) participated in the Searle Fellows Program 2008-09.

Talks & Paper Presentations

Presentations 2011

- Drane, D., Light, G., Lim, E., Kecskes, K., & Spring, A. (2011, May). Searching for common ground: International & USA university partnerships for faculty development. International Institute on Partnerships, Portland State University, Portland, OR.

Presentations 2010

- Calkins, S. (2010, September). *Inquiry learning*. Workshop presented at the Optometric Glaucoma Society Educators Program. Forth Worth, TX.
- Calkins, S., & Drane, D. (2010). Helping faculty motivate and engage students through a faculty development workshop. Workshop presented at the Professional Organization Development Network (POD) Annual Meeting , St. Louis, MO.
- Calkins, S., & Swarat, S. (2010). *Understanding faculty motivation to change*. Paper presented at American Educational Research Association (AERA), Annual Meeting, Denver, CO.
- Light, G. (2010, November). *Framework for effective teaching in higher education: Innovations & challenges*. Talk given in the LASPAU Institute: The University in the 21st Century: From Teaching to Learning, Harvard University, Cambridge, MA,
- Light, G. (2010, June). *Framework for learning & teaching in higher education: Innovations & challenges in the STEM fields*. Talk given in the Fulbright Workshop on Effective University Teaching in STEM fields, Harvard University, Cambridge, MA
- Light, G. (2010, April). *Framework for effective teaching in higher education: Innovations & challenges*. Talk given in the LASPAU seminar: On Teaching for Effective Learning, Harvard University, Cambridge, MA.
- Light, G. (2010, February). *How we learn: Practical and philosophical aspects of medical education*. Talk given to the Educating the Educators: Department of Anesthesiology 2nd annual Faculty Development Symposium, Feinberg School of Medicine, Northwestern University, Evanston, IL
- Light, G. (2010, February). *Advancing learning through teaching: A framework for sharing educational practice*. Talk given at The Education in Palliative and End-of-Life Care Project, Emory University, Atlanta, GA.
- McLaughlin, K., Streitwieser, B., Deardorff, D., Siebert, C., Wang, S., & Comp, D. (2010, March). *Where Do Faculty and Assessment Meet? Exploring the Question*. Panel presentation at the Forum on Education Abroad Annual Conference. Charlotte, NC.
- Park, E-J., Swarat, S., Light, G., & Drane, D. (2010, March). *Student understanding of scale: From additive to multiplicative reasoning in the construction of scale representation by ordering objects in a number line*. Paper presented at the National Association for Research in Science Teaching Annual Conference, Philadelphia, PA
- Streitwieser, B., & McLaughlin, K. (2010, March). *An Exploration of the Role of Faculty in Assessing the Impact of Study Abroad*. Roundtable presentation at the Comparative and International Education Society (CIES) Annual Conference. Chicago, IL.

Streitwieser, B., Wang, S., & Light, G. (2010, March). *The SCIE Study: Student Approaches to International Education*. Paper presented at the Comparative and International Education Society (CIES) Annual Conference. Chicago, IL.

Streitwieser, B., & Wang, S. (2010, March). Using Variation Theory to Understand Student Conceptions of International Experience. Paper presented at the Forum on Education Abroad Annual Conference, Charlotte, NC.

Streitwieser, B., Drane, D., Light, G., & Swarat, S. (2010, October). The Science Research Workshop: Integrating research and teaching. Paper presented at the International Society for the Scholarship of Teaching and Learning (ISSOTL) Annual Conference, Liverpool, UK.

Swarat, S., Dugan, S., & Light, G. (2010). From unpacking conceptions to designing interventions: The case of "size and scale." Paper presented at the Twelfth Annual Symposium Series on Excellence in Teaching Mathematics and Science, Evanston, IL.

Awards and Honors

Bernhard Streitwieser received a Fulbright Senior Researcher Award for 2010–2011 to collect data from a European student sample for his jointly sponsored Searle Center–Buffett Center for Comparative and International Studies project, Student Conceptions of International Experience.

University Contributions/ Outreach

UNIVERSITY CONTRIBUTIONS/OUTREACH

Committee Work

- Assessment Council (and Assessment Subcommittee): Susanna Calkins
- Classroom Committee (Teaching Methods/Technology Subcommittee Chair): Susanna Calkins
- CTEC Committee – Greg Light
- Freshman Seminar Assessment Committee – Susanna Calkins
- IMSD Advisory Committee – Greg Light
- Mellon Mays Undergraduate Fellowship review committee – Marina Micari
- Office of Fellowships, Fulbright applications review committee -- Susanna Calkins, Marina Micari, Shyanmei Wang
- Prosthetic Orthotic Center Education Program (NUPOC) Advisory Board- Susanna Calkins
- Web Communications Committee – Sharon Bautista

Consulting Outside Northwestern

- Center for Biophotonics, Science & Technology (CBST), NSF Center, University of California, Davis – External Advisory Committee – Greg Light
- Committee on Institutional Cooperation (CIC) Teaching Center Directors group – Greg Light, Susanna Calkins
- Dominican University project on course and teaching evaluations — Marina Micari and Greg Light

Teaching

- Susanna Calkins: MEd 467 - History and Philosophy of Higher Education (School of Education & Social Policy)
- Denise Drane: CSD 304 Statistics in Communication Sciences and Disorders (School of Communication)
- Greg Light & Susanna Calkins: MEd 405 – Learning and Teaching in Higher Education (School of Education & Social Policy)
- Marina Micari: SESP 291 – Undergraduate Mentoring (School of Education & Social Policy)*

- Marina Micari: MSLOC 420 – Accelerating Learning and Performance (School of Education & Social Policy)
- Marina Micari: MSLOC Capstone Advising

Reviewing

- *American Journal of Evaluation* (Marina Micari)
- *International Journal of Academic Development* (Susanna Calkins)
- *International Journal of Science Education* (Marina Micari)
- *International Journal of Teaching and Learning in Higher Education* (Susanna Calkins, Marina Micari)
- *Journal of Engineering Education* (Denise Drane, Greg Light)
- *Pediatrics* (Denise Drane)
- *Journal of Women and Minorities in Science and Education* (Marina Micari)
- National Science Foundation Grant Review Panels (Denise Drane, Greg Light)

*GSW Facilitator training course

Appendix

SEARLE CENTER STAFF 2009–2010

Principal Staff

Remi Akinyemi	Project Coordinator
Joe Lampert	Associate Director
Sharon Bautista	Program Associate
Susanna Calkins	Associate Director
Denise Drane	Associate Director
Abby Hazlett	Graduate Assistant
Greg Light	Director
Stanley Lo	Senior Fellow
Marina Micari	Associate Director
Jennifer Pickard-Criswell	Research Assistant
Rachel Ricci	Graduate Assistant
Dreana Rubel	Center Manager
Ashley Schaefer	Graduate Intern
Bernhard Streitwieser	Senior Research Associate (on leave)
Su Swarat	Research Associate
Shyanmei Wang	Program Associate
Sara Woods	Program Coordinator

Work-Study Students

Victoria King
Benjamin Li
Angela Salmons

Graduate Teaching Consultants (TCs)

Sara Armstrong
Megan Bernard
Beth Corzo-Duchardt
Jennifer Hobbs
Heather Lucas
Jennifer Myers
Taylor Page
Rachel Ricci

Graduate Teaching Mentors

Megan Bernard: Communication Studies

Kevin Bonney: Integrated Graduate Program in the Life Sciences (IGP)

Abigail Hazlett: Psychology

Paul Thelen: Theatre & Drama

Daniel Visscher: Mathematics

Kiki Zissimopoulos: Biomedical Engineering

TA Fellows Program 2010–2011 Participants

Sara Armstrong, Theatre

Mark Benton, Neurobiology & Physiology

Megan Bernard, Communication Studies

Megan Berry, Mechanical Engineering

Beth Corzo-Duchardt, Radio, Television & Film

Alla Gadassik, Radio, Television & Film

Daniel Gardner, Chemistry

Elissa Harbert, Musicology

Jennifer Hobbs, Physics

Emily Izenstein, English

Andrew Korinda, Chemical & Biological Engineering

Scott Ogawa, Economics

Jason Pitt, Neurobiology & Physiology

Rachel Ricci, Political Science

Allison Smith, Mathematics

Graduate Teaching Fellows 2010-2011 Participants

Taylor Page, Chemistry

Winter (Jade) Werner, English

Andrew Warne, History

Xaver Neumeyer, Mechanically Engineering

Jennifer Myers, Musicology

Erica Slotter, Psychology

Jason Roberts, Radio/TV/Film

Tatiana Filimonova, Slavics

Gateway Science Workshop Program Assistants

Shelly Mo

Jackie Yeung

FACULTY PROGRAMS DATA

Searle Fellows Program Participants

Fellow Name	Department	Mentor
Benjamin Armbruster	Industrial Engineering and Mgmt Sciences	Bruce Ankenman
Geraldo Cadava	History	Melissa A Macauley
Kenzie Cameron	General Internal Medicine	Gary Martin
Irina Dolinskaya	Industrial Engineering and Mgmt Sciences	Karen Smilowitz
Hannah Feldman	Art History	Susan Hollis Clayson
Robby Findler	EECS	Gokhan Memik
Michael C. Jewett	Biomedical Engineering	Rob Linsenmeier
Emily A. Maguire	Chemical and Biological Engineering	John Torkelson
Wendy Murray	Spanish & Portuguese	Lucille Kerr
Ramille N. Shah	Materials Science & Engineering and Orthopaedic Surgery	Ken Shull
Sonya Rasminsky	Psychiatry	Joan Anzia
David H. Rothstein	Pediatric Surgery	Debra DeRosa
Alice Weinreb	History	Sarah Maza
Masaya Yoshida	Linguistics	Stefan Kaufmann
Jing Zheng	Otolaryngology-Head & Neck Surgery	Claus-Peter Richter

Faculty Workshops

Date	Workshop Title	Attendance	Average rating (out of 5)
10/7/2010	Setting Your Students Up to Succeed: Designing a Learner-Centered Course	12	4.6
10/18/2010	Connecting with the Crowd: Lecturing Effectively in Large Classes	12	4.1
10/26/2010	Learning in a Med School Context: Designing a Student-Focused Learning Experience	4	4
11/12/2010	Connecting with the Crowd: Lecturing Effectively in Large Medical-School Classes	10	4
11/16/2010	Developing an Effective Pedagogical Component for Your Grant Proposal	7	4.2
1/20/2011	Connecting with the Crowd: Lecturing Effectively in Large Classes	14	3.9
2/7/2011	Developing an Effective Pedagogical Component for Your Grant Proposal	4	3.8
2/23/2011	Feedback that Matters: Using Formative Assessment to Promote Learning	3	5
2/25/2011	Making the Most of Mentoring: Helping Your Graduate Students Succeed—facilitated by Tracy Davis	12	4.7
2/28/2011	Writing to Learn: Developing and Evaluating Writing Assignments within the Disciplines	5	4
4/7/2011	Any Comments? Energizing Your Classroom through Active Discussion	14	4.22
4/18/2011	Grading with Intent: Designing Effective Assessments to Improve Student Learning (part 1 of a 3-part series)	11	4.1
5/10/2011	CTECs and Beyond: Using Formative and Summative Student Feedback to Improve Learning (part 2 of a 3-part series)	16	3.9
5/23/2011	Assessing Your Course's Effectiveness (part 3 of a 3-part series)	7	4.4

University Teaching Roundtables

Date	Title	Attendance
Nov. 9, 2010	Promoting Productive Discussion in the Classroom, Angela Ray	13
Jan. 19, 2011	Close Textual Reading and Reasoning, Laurie Zoloth	8
Jan. 31, 2011	Playing with Failure, Mary Poole	12
March 1, 2011	Concentration and the Creative Mind, Hans Jorgen Jensen	14
April 6, 2011	Do Electronics Help – or Harm – Students’ Learning in Lecture, Mike Smutko	14
April 28, 2011	The Classroom as Collaborative Enterprise: Developing Students’ Awareness of Their Own Learning Process, Indira Raman	10

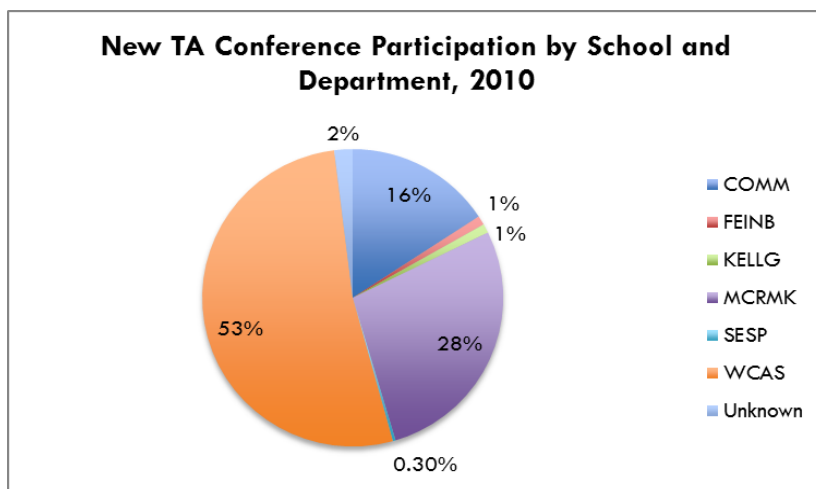
Teaching and Learning with Technology Series

Date	Title	Attendance	Average Rating (out of 5)
Jan. 28, 2011	Social Media	17	4.1
Feb. 4, 2011	Concept Mapping	8	3.75
Feb. 11, 2011	Bgoogle	12	3.78
Feb. 15, 2011	Clickers in the Classroom (Chicago)	16	3
Feb. 24, 2011	Clickers in the Classroom (Evanston)	5	4
March 2 & 11 2011	Student Video Project	8	4.43

GRADUATE STUDENT PROGRAMS DATA

New TA Conference

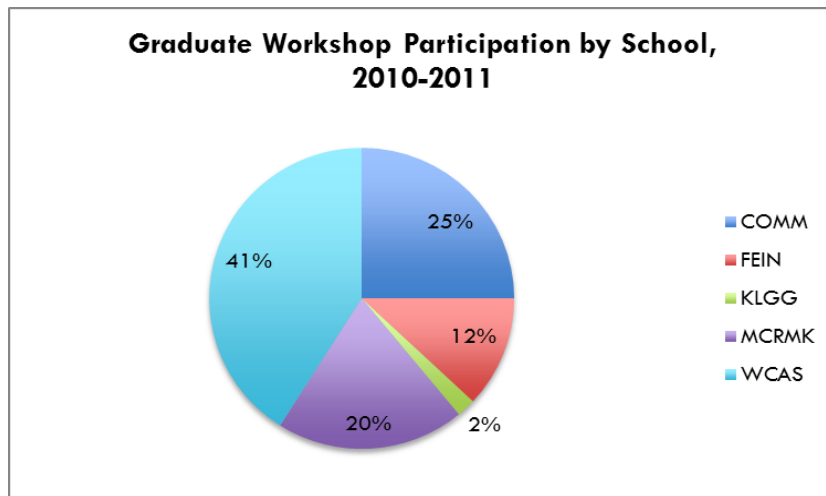
Department	School	Participants
African American Studies	WCAS	4
Biochemistry, Molecular Biology, and Cellular Biology (BMBCB)	WCAS	1
Communication Studies	COMM	13
IPTD (Theater)	COMM	8
RTVF	COMM	19
Tech. and Social Behavior	COMM	6
Feinberg (various)	FEIN	2
Finance	KLGG	3
Earth and Planetary Sciences	WCAS	4
Engineering	MCRMK	81
Chemistry	WCAS	47
English	WCAS	5
Economics	WCAS	25
History	WCAS	17
Languages	WCAS	5
Linguistics	WCAS	5
Music	WCAS	2
NUIN	WCAS	13
Philosophy	WCAS	1
Physics	WCAS	3
Psychology	WCAS	13
Religious Studies	WCAS	4
Statistics	WCAS	4
SESP	SESP	1
Unknown		5
TOTAL		291



Average Rating: 4.3/5

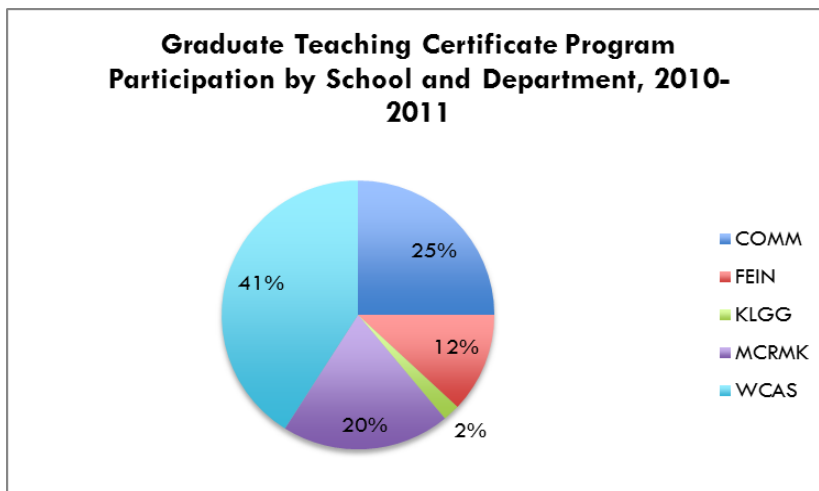
Graduate Student Workshops

Workshop	Date	Attendance	Avg. Rating (5 pt. scale)
Marketing Your Teaching	10/11/10	30	4.3
Talking the Talk: Facilitating Classroom Discussion	1/19/11	15	4.3
Getting the Mentoring You Want	1/21/11	12	4.1
Teaching with Intent: Planning An Effective Class Period	3/2/11	30	4.5
Designing Active Learning into Your Teaching	4/4/11	17	4.3
Marketing Your Teaching	4/12/11	22	4.7
Adding Community Engagement and Service Learning to Traditional Classes	4/21/11	5	4.8
Teaching Conflict: Controversial Topics in the Classroom	4/25/11	14	4.0
Grading Assignments and Assigning Grades	5/13/11	15	4.4
Total:		160	4.4



Graduate Student Certificate Program

Department	School	Participants
Comm. Studies	COMM	7
IPTD (Theater)	COMM	3
Screen Cultures	COMM	4
Feinberg various	FEIN	6
Engineering	MCRMK	10
Biology (iBiS/BMBCB)	WCAS	2
Chemistry	WCAS	0
Earth and Planetary Sciences	WCAS	1
English	WCAS	0
History	WCAS	0
Linguistics	WCAS	1
Math	WCAS	3
Music	WCAS	0
NUIN	WCAS	6
Physics	WCAS	1
Political Science	WCAS	3
Psychology	WCAS	2
Religious Studies	WCAS	1
Slavic Studies	WCAS	1
Total:		51



UNDERGRADUATE PROGRAMS DATA

Gateway Science Workshop (GSW) Program

Discipline	Female	Male	Unreported	Minority	Majority	Unreported	TOTAL
Biology	104	109	2	12	189	14	215
Chemistry	124	63		36	148	3	187
Organic Chemistry	162	122	9	19	247	27	293
Physics 130	53	21		7	59	8	74
Physics 135	62	37		11	81	7	99
EA	70	52		26	86	10	122
Math 212/13/14	7	5		6	6		12
Math 220	13	7	5	9	11	5	25
Math 224	36	20		15	40	1	56
Math 230	38	27		5	54	6	65
TOTAL	669	463		146	921		1148

Note: Data taken from SPSS merged data file

SESP 291/GSW Facilitator Training Course Participants

Student Major	# Participants
Biology	23
Engineering	8
Economics	5
Chemistry	4
Psychology	5
Mathematics	4
Comm Sciences	3
Language/literature	3
ISP	2
Music	1
Undeclared	2
TOTAL	60

Note: Some students had a double major, not reflected here

GSW Senior Facilitators

Alison Gegios	Mahima Vijayaraghavan	Nikki Chauhan
Anna Martin	Marit Tweet	Raga Siddharthan
Audrey Sigmund	Matthew Koscica	Ryan Jozwiak
Jackie Yeung	Natalie Tapaskar	Shelley Mo
John Froberg	Nate Davidson	Tina Zhu

Science Research Workshop Program Participants

Student Major	Female	Male	Total
Biology	9	8	17
Chemistry	1	4	5
Materials Science	0	2	2
TOTAL	10	14	24

Student-Led Seminar Leader Training Program Participants

Student Leader's School	Winter	Spring
WCAS	1	3
SESP	6	1
SComm	3	10
TOTAL	10	14

Undergraduate Teaching & Learning Committee Members

Lindsay Abbassian, Medill
Jennifer Bae, Weinberg
YoungSang (Allen) Lee, Weinberg
Dylan Mombach, School of Communication
Daniel Nissani, SESP
Birju Rao, Weinberg
Trenton Rogers, Weinberg
Selena Tenorio, School of Continuing Studies
Esther Wang, SESP