

Minutes
Reinvention Center Southeast Regional Network Meeting
Georgetown, Washington, DC
February 24, 2006

Attendees: Wendy Katkin (R.C. Director), Kathleen Flint (R.C. Assistant Director), Milton Adams (U of Virginia), Jeffrey Appling (Clemson), Randall Bass (Georgetown), Grae Baxter (George Washington), Cheryl Beil (George Washington), Mark Caldwell (U of Virginia), Kamilah Woodson Coke (Howard), Bernie Cook (Georgetown), Jennifer Dix (U of Maryland College Park), Mike Ellerbrock (Virginia Tech), Bill Frawley (George Washington), Joseph Grabowski (U of Pittsburgh), Karen Harwell (Georgia Tech), Peggy Heely (U of Pittsburgh), Sandra Hussey (Georgetown), Pamela Kleiber (U of Georgia), Melinda Knight (George Washington), Jay Labov (National Research Council), Karen Laughlin (Florida State), Kelly Mack (U of Maryland Eastern Shores), Janice Murdoch (Clemson), Lucius Outlaw (Vanderbilt), Teresa Redd (Howard), Sanja Sipek (U of Maryland College Park), Kathy Smarick (U of Maryland College Park), Charles Sternheim (U of Maryland College Park), Kaci Thompson (U of Maryland College Park), Briana Timmerman (U of South Carolina), Alan Utter (Appalachian State), Lee Willard (Duke), Naomi Yavneh (U of South Florida)

Introduction and Welcome

Reinvention Center Director Wendy Katkin welcomed the group and gave an overview of the Center and some of its recent activities. Formed in 2000, the Center is the only national organization to focus on enhancing undergraduate education exclusively at research universities. It has sponsored two national conferences, each of which has attracted four hundred attendees. Many of those present at the Georgetown meeting indicated they had attended at least one of the conferences and thus were familiar with the Center's mission and goals.

Past recommendations from the conferences inform and guide many of the Center's activities. The Center's Web site has extensive Resources pages; as an outgrowth of the 2004 conference, new categories were established on interdisciplinarity, the science of learning and the integration of the life and quantitative sciences in the undergraduate curriculum. The Spotlight on the Web site has also been used to support these interests. In the past two years, the Spotlight has focused on interdisciplinarity in general education, the minor as a vehicle for interdisciplinary study, and the integration of the life and quantitative sciences.

The 2004 conference demonstrated the significant interest faculty have in the science of learning. A substantial number of faculty indicated on the Conference Assessment Form how impressed by the research that was presented. Many said that prior to the conference they had been unaware or skeptical of the significant advances that have been made in research on learning, but after hearing the presentations and participating in conference breakout sessions, they were intrigued by the potential application of research findings. Several faculty noted that the research that was presented at the conference was new to them and they would like to learn more. They observed also that the teaching resource centers on their campuses could provide a real service by pointing them to recent well-designed studies and helping them to translate and apply research findings in their own teaching. In response to this strong interest, the Center has initiated discussion with officials at the NSF about a proposal in which the Center would help teaching research centers incorporate research findings on learning into their professional development activities.

Reinvention Center Initiatives

Wendy briefly presented several Reinvention Center initiatives currently underway.

- In response to the recommendation of participants at the 2004 conference for the Center to assist campuses in bringing interdisciplinarity to the undergraduate curriculum, and to general education, in particular, the Center submitted a proposal to the NEH to develop a template and resources to support the design and teaching of a lower division interdisciplinary course in “Moments of Discovery.” The “heart” of the project was a five-day summer institute during which 24 faculty in diverse disciplines would develop these materials and produce model syllabi for four major intellectual achievements: Galileo’s observations of the solar system, the invention of the printing press, the writing of the U.S. Constitution, and the discovery of nuclear fission. These particular achievements were intended to be exemplary. Other achievements might well have been chosen. Faculty and administrators who participated in the development of the proposal have suggested myriad ways in which a course on “Moments of Discovery” might be adapted to meet individual campus needs. The course for example could be offered as a seminar or in a lecture format with recitation sections that focus on different discoveries. It could be organized around achievements or discoveries made during a period like the Renaissance or pre-World War II Germany, or around a theme, such as transportation or communication. The goal was to create a flexible framework that campuses and faculty can adapt to suit their academic structure and needs and the strengths and interests of faculty and departments.

Unfortunately, the proposal has just been rejected. The Center plans to modify it and submit it to the NSF.

- We are currently developing the program for the next Reinvention Center conference, which will take place in Washington DC on November 9-10, 2006. We are attaching the latest draft, which reflects changes suggested by you and your counterparts at universities in other regions. If you have recommendations for speakers or session leaders that are still open, please pass them on. Or if you have further suggestions regarding the program, pass them on as well. There was some discussion of expanding what is currently a breakout session on the changing demography of students into a plenary session. We are still exploring this possibility, though we are to a great extent locked in because of invitations that had been previously extended. Nevertheless, if you would like to recommend a good speaker for such a plenary, send us the person’s name and contact info.
- The Reinvention Center Web site “Spotlights” topics of interest to the research university community. Our current Spotlight, which has just been posted, is on the applications of instructional technology in a range of educational settings. It can be found at <http://www.sunysb.edu/Reinventioncenter/Spotlights>. We are open to showcasing other models as well, so if you have one you would like us to showcase, please contact Katy Flint ASAP: Kathleen.flint@sunysb.edu

We are planning a future Spotlight on the diverse forms undergraduate research can take. These forms can include both traditional and non-traditional modes and include group projects, exhibits, performances, portfolios and models embedded within courses. If there is a “form” on your campus that you would like us to feature, please let us know by May 1. To see what “spotlighting” your initiative will entail, we invite you to visit our Web site; <http://www.sunysb.edu/Reinventioncenter/Spotlights>.

Georgetown University: Undergraduate Learning Initiative

Randy Bass, Associate Professor of English and Assistant Provost for Teaching and Learning Initiatives at Georgetown University, gave a presentation, “Beyond Floor Wax and Dessert Topping: Looking for Coherence across Specialization in a Research University Environment,” in which he offered a “third path” to address the persisting competition between research and teaching at research universities. In response to the competition, he has created a model that integrates the two missions through a focus on learning. In this model, teaching becomes a catalyst for research and research is brought to bear on teaching.

Research universities require increasing specialization; the process of specialization however has “disintegrated” the curriculum. The challenge Randy and his colleagues faced was to identify opportunities for “cross-specialization” and determine the “cross-institutional” strategies that would enable undergraduates to construct their own integrative experiences. In addressing the challenge, they drew on the Novice/Expert paradigm, in which instructors, guided by notions of expertise, teach to promote understanding, skills in critical thinking, and flexibility in performance. The question is how to develop expertise. How do we train instructors to teach for understanding? While we know how experts think, we do not know how experts teach. Robert Barr and John Tagg in *From Teaching to Learning* suggest that a fruitful approach is to shift from an instructional to a learning paradigm. There are three dimensions of learning: Affective, cognitive, and metacognitive. Too often the undergraduate curriculum focuses on the cognitive dimension which places greater value on students’ learning a certain body of information than on their developing a critical habit of mind. Randy’s model engages all three dimensions.

An example may be seen in the new senior capstone experience he has created, the “Biology Teaching Thesis,” which aims to transform biology students into “experts.” All biology majors at Georgetown are required to do a senior thesis, which typically consists of either a laboratory- or library-based research project. The “Biology Teaching Thesis” offers a third option, in which students create an inquiry-based science curriculum for a DC middle or high school. Students who pursue this option engage in many of the same activities that define a more traditional research experience. In creating lesson plans, they need to review a range of materials and justify their selection of topics to be included and their development and choice of teaching materials; they need to do pre- and post assessments which requires collecting and analyzing “data” or evidence; and they need to write a senior thesis, which is a case study of their experience. The thesis is intended for the general student, not just for those who intend to become teachers because it allows students to synthesize and re-learn much of their biology experience. Students who have completed the thesis say that through the experience they have learned or gained greater understanding of concepts that they thought they knew prior to teaching. Other comments point to the value of the experience. Students refer for example to the difficulty in breaking things down. In keeping with the findings from studies on peer instruction, students find that they develop new and deeper understanding of the biology material when trying to explain it. While some faculty have expressed concern that students are ‘re-learning’ information they should already know, the students’ re-discovery of the material allows them to identify holes in their understanding and find new connections among what seemed like disparate facts. Randy and his collaborators are currently analyzing assessment data on the teaching thesis outcomes; anecdotal evidence shows that the students feel they have a more comprehensive and nuanced understanding of biology and the processes of science after having to break elements down for teaching. The “Teaching Thesis” program is now slowly expanding into English and Math.

In order to move students beyond passive learning, undergraduate teaching must be valued alongside undergraduate research. It must support the development of “adaptive expertise” – in contrast with “routine expertise” – which occurs when students understand the limits of their

knowledge, understand the process of problem solving, and can begin to solve new and adaptive problems from multiple perspectives. In order for them to achieve this expertise, the undergraduate curriculum needs to be designed so that it spans the whole range of learning dimensions. Ernest Boyer noted that there are four kinds of scholarship: Discovery, application, integration and teaching. Randy's approach in developing the model described here and in overseeing Georgetown's Undergraduate Learning Initiative (ULI) is to engage students in all four modes. The more typical approach is to have students emulate faculty by privileging discovery. Faculty know intuitively that they learn more when they teach, but they do not often apply this knowledge to their own teaching. The "Teaching Thesis" brings this affective dimension into the curriculum.

So far, eight students have taken the "Thesis Teaching" option. They are mentored by Heidi Elmendorf, Associate Professor of Biology, and creator of the option.

The ULI is part of the new capital campaign to develop "the future of learning" at Georgetown. At present, there are wonderful opportunities at Georgetown, but they are not connected in the undergraduate curriculum and the "whole is less than the sum of the parts." At its core, the ULI seeks to redesign the undergraduate experience by integrating the various parts – general education, major, electives, off-campus opportunities – and creating a coherent experience. The challenge is to how to create meaningful change that distributes responsibility for teaching and learning and has grassroots support. A related issue is whether Georgetown University as an institution can take learning as seriously as it has always taken teaching. How can university leaders engender a shift in the paradigm that will affect the whole shape of the undergraduate experience?

The ULI has many components.

- It has created two "signature" paths that will take undergraduates from their first-year experience to their senior-year capstone. One path expands the role of the student: Undergraduates as researchers and teachers. The other moves education outside the classroom and extends it to the local community and beyond that to the world. Together these paths provide a framework for an undergraduate career that spans the full spectrum of learning.
- It has expanded funding for undergraduate research and has created two new programs that enable students to study and do research abroad: GUROP and the Senior Thesis Study Abroad.
- It has established a new postdoctoral fellowship in which fellows devote 50% of their time to research and 50% to mentoring undergraduate research that cuts across a set of related disciplines or sub-disciplines.
- It has created three faculty-oriented initiatives: Faculty Innovation grants to support course and curricular development and redesign, the Distinguished Teaching Scholars program which give awards to faculty who effectively integrate research and teaching, and Integrated Learning Pilots to support innovative, interdisciplinary courses and other efforts like a digital portfolio initiative

There was significant discussion following the presentation. Participants focused primarily on two issues: How Georgetown University has built interest and increased involvement of both Georgetown faculty and teachers and administrations at DC schools, and how the new initiatives are being funded. Since many of the components of the ULI originated with faculty, there was grassroots support from the outset. Interest grew as funds for pilot projects became available. In addition, Randy and other leaders in this effort approached some faculty. While broadening,

participation in the ULI has varied with funding source. Many of the grants are team-based and so inherently collaborative. The University has established summer institutes to help disseminate information about the ULI and the various initiatives it has engendered. The Teaching Thesis project started with middle schools and then expanded into the high school. Its spread was facilitated by a lot of word-of-mouth from the school teachers themselves. The individual teachers were very interested from the outset. Georgetown undergraduates now help with teaching in 40% of the courses at participating schools.

The resources needed were not considerable since faculty typically teach new courses within their existing course load. Pedagogical initiatives are funded out of a grant program which gives awards at the \$1000 level. Randy and his colleagues have had some success in obtaining external funding, and are eager to expand their activities in this area. The University is building the ULI into its capital campaign.

Randy offered several strategies to those interested in establishing similar programs. The first is to “just do it.” Don’t talk about costs. Rather, focus on the program becoming a “credentialized” alternative. Next, recruit “signal” faculty; get 6-7 well-respected faculty to participate and provide leadership. A grassroots effort can begin with one faculty. Third, use your pilot money wisely. The Distinguished Teaching Scholars at Georgetown brought applications from unexpected faculty. Randy’s Center is now six years old. He and his colleagues are now building on the groundwork they established in the six years.

The question was raised whether teaching enhances graduate students’ research. It was suggested that the Reinvention Center undertake multi-campus projects that address aspects of teaching and learning, including looking at the value teaching may bring to graduate students’ development as researchers.

Another question related to assessment: What does it look like to have real data on undergraduate research? How do you get convincing data on the experience of studying abroad?

A copy of Randy’s Powerpoint presentation is attached.

Interdisciplinary REUs in Humanities and Hurricane Studies

Naomi Yavneh, Associate Professor of Humanities and Director of the Office of Undergraduate Research at the University of South Florida, gave a talk on “REU READY! Creating an Undergraduate Research Experience in the Humanities and other less traditional disciplines.” She began by noting that outside the sciences, many are unfamiliar with the term REU, meaning “Research Experiences for Undergraduates” and there is no culture of undergraduate research for faculty or students to draw on. Her goal was to make it as easy as possible for faculty in the humanities and “soft” social sciences to become involved in mentoring students. A first step was the Office of Undergraduate Research at the University of South Florida launching a campaign to popularize the term REU and to translate it so that it would be meaningful for students and faculty across all disciplines.

One way “to make it easier for faculty” is to create mechanisms that enable students to develop essential research skills and thus be “useful” to faculty. The traditional model in the humanities has been the “thesis relationship” in which advanced or “honors” students work in a close mentoring relationship with faculty on thesis projects usually outside the faculty members’ research expertise. This model creates a significant workload for faculty since the job of overseeing is more akin to teaching than research. In order to create a “real” research experience, student and faculty perceptions and expectations must change. Students need to realize that

research is not an “honors only” opportunity and that they must have specific skills to contribute to a project. Similarly, faculty must realize that students can make useful contributions, and that they can benefit from such research collaborations.

To combat the misperceptions and facilitate participation in research by all students, Naomi created a program that builds on the REU format commonly used in the sciences and engages students early in their careers (rising juniors). The program aims to create opportunities for a range of students, provide a supportive research community, and facilitate the development of research skills that allow students to make meaningful contributions to their projects.

The first pilot REU in the Humanities, developed by Naomi in her area of expertise, was a summer humanities project on “Women and Gender in Europe: From the Renaissance to the 20th Century.” The project was designed to provide an intensive research experience through which students would gain the skills necessary to serve as research apprentices to faculty in humanities disciplines, as well as to help students prepare for graduate or professional school and Senior Thesis work. The project, which has served as the model for subsequent REUs within Naomi’s purview, consists of a six-week summer session, first offered in 2005, during which students take two content-specific courses and one REU-only research methods course. Since the two content courses already exist, no additional resources are needed to fund them. At the end of the summer, students participate in a colloquium and, if they pass their courses with B or higher, receive a \$500 scholarship. They are also matched with a faculty member and in the Fall, work as the faculty member’s research apprentice.

As a result of its effectiveness, Naomi’s pilot program has been expanded into the REU “Umbrella Program” which provides research opportunities for undergraduates across all disciplines. The Umbrella Program offers research skills workshops throughout the year on topics such as poster presentation, ethics, and abstract writing and it sponsors a number of social activities and field trips that create a sense of community among the student researchers. To further foster a sense of community, USF is dedicating a dorm and an RA for all REU participants in the summer 2006. A graduate student in English coordinates the workshops, identifying appropriate leaders for each, and helps students with writing and editing.

While Naomi’s first effort focused on the Humanities, the program has expanded and in 2006, there will be on REU in Sociology on “The Diverse Urban Communities of Tampa Bay,” which will include community-based research and a new sociological research methods course, and an interdisciplinary REU in “Hurricane and Disaster Studies,” which involves faculty from social work, anthropology, geography, communications, humanities, theater, and public health. This program also draws upon a number of existing courses.

There was significant discussion following this presentation. Several people were interested in how the attitudes of humanities faculty toward undergraduate research may have changed as a result of this initiative, Naomi noted that the response from faculty who have been involved has been positive so far, but that departments are still largely uncertain as to the value of the experience. It has been easier to recruit faculty to take on “trained” student; however, few humanities faculty have been interested in making their courses “REU Ready.” Because part of this problem may stem from a fear of increasing summer workload, Naomi is working both to publicize how the program draws on existing resources, and also to adapt the design for the academic year. There were many questions regarding the resources and funding required of the program. The summer time commitment is only six weeks, but those weeks are intensive. Because USF runs on a year-round calendar and many students need to take summer courses anyway, REU students pay their own summer tuition. In addition, several of the courses are

already scheduled and funded by the departments involved. The primary funding for the Office of Undergraduate Research comes from a budget line item created by the provost, who is especially interested in supplementing funding for the humanities and the arts. Other questions focused on the extent to which graduate students and non-REU students participate in the skills workshops. Graduate students are informed of the workshops, although it is unknown whether they participate. Their primary involvement has been in teaching the workshops, which is viewed as a “great opportunity.” UR USF Workshops are available to any student at USF; Naomi is currently looking at ways to offer REU research methods courses to non-REU participants, since the relevant administrative offices have been uncertain about how to assign course credit. However, they are looking at solutions for this.

A copy of Naomi’s Powerpoint presentation is attached.

Survey on Reinventing Undergraduate Education: Eight Years after the Boyer Report

In 2001, the Reinvention Center conducted a survey at the behest of the Boyer Commission to determine the extent to which research universities had acted upon the ten major recommendations made by the Commission in its report, *Reinventing Undergraduate Education: A Blueprint for America’s Universities*. Ninety three of the 123 research universities that offered undergraduate programs participated. Wendy summarized the survey findings and reported on the Center’s intent to repeat the survey this year. The goals are to measure the progress research universities have made in “reinventing” their undergraduate education and to determine their interests and priorities for the next three years. It was noted that many topics that are high on today’s agenda, such as research on learning, creative uses of technology, and internationalizing the curriculum, were not even mentioned in the earlier survey. The 2006 survey, which will be implemented in the spring, will be administered in both online and printed versions, and will be sent to the senior officials on each campus responsible for undergraduate education (members of our “UVP network”). These survey results will constitute the “official” sample; they will be supplemented by responses given separately by faculty and staff, as well as by interviews of subsets from all these groups. The goal is to develop a rich and nuanced picture of the state of undergraduate education at research universities. The survey results will be published in both printed and electronic formats and the metadata will be made available on our web site later this year. We still welcome comments and suggestions on our latest draft of the survey questions, and they can be sent to us at reinvention@sunysb.edu.

Wendy’s summary of the previous findings can be found in the attached Powerpoint. The published report on the 2001 survey can be found at: <http://www.sunysb.edu/pres/0210066-Boyer%20Report%20Final.pdf>.