

Minutes: Reinvention Center DC Regional Network Meeting
October 5, 2001

The second DC network meeting of research universities sponsored by the Reinvention Center took place on October 5, 2001 at the Club Quarters Hotel in Washington, DC. It was attended by 18 faculty and senior administrators from 11 public and private institutions. A list of attendees is attached. Several others who had planned to come were deterred by the September 11th catastrophe and/or the closure of the Ronald Reagan National Airport in DC.

Catching Up

Wendy Katkin, Director of the Center, began with a report on the Center's activities since the DC group's first meeting in March. Since that meeting, there has been a great deal of activity.

- An Advisory Board, made up of faculty and senior administrators, has been established. Its membership reflects a good balance with respect to representation from public and private institutions, different regions and diverse disciplines. The Board will convene for the first time on November 16. The goals of the initial meeting will be to review a draft of a blueprint for the Center that will serve as its guiding document, establish Center priorities and set an agenda for short- and long-term activities. The blueprint will be distributed to all Center constituents as soon as it is approved by the Board. The list of members is posted on the Center's Web site at <http://www.sunysb.edu/Reinventioncenter/who-we-are.html#board>.
- An email list-serv has been established for each of the Center's four regional networks so that members may exchange information with one another. Messages will be archived on an electronic bulletin board at: <http://darkwing.uoregon.edu/%7EEllynch/rclists.html>. All members of the DC network are already subscribed to the list-serv. Members are also invited to subscribe to the list-servs for the other regions. Cross-regional interaction is welcomed and encouraged. Chuck Sternheim, Professor of Psychology at the U of Maryland, has initiated discussion on the DC list serv with a request for information on whether student evaluations of courses are made public. Approximately 25 institutions responded within the week, pointing to the potential value of the list serv.
- The Reinvention Center's Web site includes a "Spotlight" category, designed to focus attention on specific topics that are central to undergraduate education at research universities. The Spotlight consists of a short essay on the specific subject and examples of good models or practices drawn from different campuses. Spotlight topics change every few months. The initial Spotlight featured an essay on the importance of the first year of undergraduate study by Bruce Alberts, head of the National Academy of Sciences, and examples of a range of different kinds of first-year initiatives offered at Cornell, Northwestern, UCLA and the University of Maryland. The current Spotlight is on undergraduate research. It will have two essays: one by Nancy Weiss Malkiel, Dean of the College at Princeton, on the value of undergraduates having a research experience, and the second, by Ellen Woods, Senior Associate Vice Provost for Undergraduate Education at Stanford, on developing a comprehensive strategy to increase student *and* faculty participation. Models are drawn from Carnegie Mellon University, the University of Delaware, Princeton, Stanford, and UC Berkeley. A third, projected Spotlight will be on interdisciplinary education. Gregory Bothum, Professor of Physics at the University of Oregon, will argue that the traditional departmental structure impedes progress in promoting

interdisciplinary study by undergraduates. The Center is currently soliciting examples or descriptions of experiences that support or refute this argument. It is also looking for strategies for overcoming departmental barriers.

Wendy Katkin encouraged attendees to check out the Spotlight because it highlights initiatives that have proved effective and can be readily translated to different institutions and contexts. Cornell initiated its “Explorations” program in order to give students taking Introductory Biology an opportunity to interact in a small group with senior faculty and to have a learning experience under their tutelage that is not possible within the large lecture format. The Explorations Web site is: http://biog-101-104.bio.cornell.edu/BioG101_104/explorations/explorations.html. Stony Brook has recently adapted the Explorations model for a one-credit “Introduction to a Research University” course so that incoming students enrolled in the course have a similar experience, with faculty across a wide range of disciplines.

- The Center has begun to make contacts that hopefully will lead to grants to support Center-sponsored activities. The National Science Foundation has invited the Center to submit a proposal for a grant to support the development of a Center that will focus on the improvement of undergraduate science, math, and engineering teaching at research universities. Although the existing NSF solicitation for Center proposals is directed at K-12 teaching and learning, the NSF would welcome a proposal from a consortium of Center members that is directed at undergraduate teaching. More information on the NSF solicitation available on the NSF’s Web site: http://www.ehr.nsf.gov/esie/publications/headlines/new_centers_solicit.htm. Faculty who are interested in becoming involved in this initiative should contact Wendy.
- Judith Sunley, an NSF senior program officer in Mathematics and previously Interim Assistant Director for Human Resources and Education, will be spending her spring sabbatical at Stony Brook, working with Wendy on Reinvention Center initiatives in science education.
- The Center is endeavoring to work with the National Endowment for the Humanities on ways to increase faculty interest and student opportunities for scholarship in the Humanities. One idea is to engage library faculty in this activity. The Reinvention Center is encouraging participation in Center activities by research library staff who are an important and valuable resource.

Boyer Follow Up Survey

This spring, at the behest of the Boyer Commission, the Center surveyed all 123 research universities (using old Carnegie designations) to determine the extent to which the Commission’s ten major recommendations have been part of their agendas in the past three years. Nine-three institutions responded. The representation among respondents (72% public and 28% private) is comparable to their representation in the total research university population.

The Boyer Commission recommendations related to:

- Opportunities for research and creative activity
- Inquiry-based teaching
- Collaborative learning
- Freshman seminars

Integrated first-year program
Instruction in writing
Instruction in oral communication
Capstone courses and senior projects
Teaching assistant training
Faculty rewards promoting excellence in undergraduate education

The findings show that research university faculty and administrators are talking and thinking about the way undergraduate education is conceived and delivered to an extent they had not previously done. Four interests have received the greatest attention: 1) Expanding research/creative activities and making them the centerpiece of undergraduate education at research universities; 2) providing a first-year experience that promotes active learning and critical skills development; 3) revamping general education; and 4) improving students' writing abilities.

Teaching resource centers have been established to help faculty improve their teaching. Beyond the classroom, the main focus has been on creating small social and academic communities that make large research universities more welcoming and manageable for all undergraduates, but particularly for first year students. Thus far most university efforts have been directed at the best students; the challenge for almost all is to reach a wider spectrum. The problem is particularly acute at public institutions, which have more limited financial resources.

Supportive leadership and structures and resources are necessary to bring about substantive change. Faculty buy-in is also needed. The survey data suggest that campuses have revised their promotion/tenure guidelines to give greater recognition to efforts directed at undergraduates and rewards have been put in place on many campuses for faculty who go the extra step. Most faculty however continue to see research as the critical factor in promotion/tenure decisions and in their gaining national recognition for themselves and their departments.

Survey Results by Item

Undergraduate Research: Involving undergraduates in their own and faculty research projects is a priority on nearly all campuses. A number of campuses are attempting to weave research participation into the entire undergraduate academic experience, rather than making it a capstone experience only. 45% of respondents reported that they involve more than 50% of their students in research, though the mean is about 20 to 25%. The highest involvement is in the natural sciences, notably biochemistry and psychology. Librarians are an untapped resource for helping to develop students' research skills and for increasing participation in the humanities and non-lab-based social sciences.

One major issue is assessment: What is the goal of participation in research, and what are the desired products and outcomes of the student's research experience? What types of experiences should be called "research"?

Inquiry-Based Learning: No one agrees exactly on what this is, and campuses have found it difficult to quantify the extent of its use or its effectiveness. Most respondents reported "sensing" that inquiry-based learning "plays an increased part of introductory courses, but we don't know what that means." Inquiry based learning appears to figure most prominently in chemistry, calculus, and engineering.

First-Year Seminars: About 80% of respondents offer academic seminars for freshmen,; 45% enroll 45% or more of the students. First-year seminars are more prevalent at private institutions. Only one institution reported making them available to transfer students. About half the respondents use tenure-track faculty only to teach the seminars.

Block Scheduling: About 65% of respondents offer a block scheduling program, typically three courses, often with a linking seminar. These programs are good recruiting tools and help students adjust during the first semester, but they have a high attrition rate after the first semester and are not generally seen as valuable beyond that as students are ready for a broader experience.

Writing and Oral Communication: This is a high priority; all responding institutions have increased their writing requirements in recent years, and 50% have added upper-level requirements that are commonly integrated into major curricula. Oral communication is on the agenda in professional programs such as engineering and business, but not yet a priority issue in the arts and sciences.

Capstone Experiences and Senior Projects: These are typically required in some but not all majors, particularly for honors. In engineering, accreditation requires that all students complete a design project.

Graduate TA Training: 70% of responding universities have a mandatory orientation for all new graduate TAs, but few have formal follow-up training or standards for TA preparation and quality. Teaching centers are providing the best and most valuable programs for TA preparation and support. Their efforts in this and other contexts such as faculty-development are most effective when disciplinary faculty are heavily involved.

Faculty Rewards: All responding institutions have mechanisms such as teaching awards, salary enhancement, release time and small grants to recognize and support faculty efforts to improve undergraduate teaching and learning. 50% of institutions reported a change in faculty rewards in the last three years. Yet the majority of faculty have not yet bought into new ways of teaching, for a variety of reasons: they do not have the time, they are satisfied with their current practices, they do not know how to change or what to do, they have research as their priority, and, perhaps most importantly, regardless of what written policies dictate, they do not believe that promotion and tenure decisions truly value contributions to undergraduate education. There appears to be a disparity between faculty and administrative perceptions of the extent to which efforts directed at undergraduates are valued in the promotion and tenure process.

Efforts at faculty development appear most successful when they are proactive, have a disciplinary focus, and are informed by good research on teaching and learning.

Next Steps

The survey's last question asked respondents to indicate the single most important thing they thought their campus could do to improve undergraduate education. While there were almost as many ways of responding to this question as there were respondents, a few clear themes emerged. The primary one is the need to develop modes of teaching and learning that are consistent with the mission of research universities of generating new knowledge. Although there are many good practices in place, they tend to be scattered and/or offered on a small scale. The first step is for universities to expand, integrate, and sustain current good practices so that

they are central to the undergraduate experience and benefit the majority of students. This involves careful planning and allocation of adequate funds. Many campuses have already established groups to develop such plans, but the extent to which campuses have been able to implement the plans varies enormously. Step two is to create a culture that promotes undergraduate research and creative activity and to make it available to students at different levels. An important issue therefore is how one creates this culture. Supportive and visionary leadership is essential.

With respect to student learning/curricular issues, respondents point to the importance of the first-year experience in terms of promoting the active learning and development of skills students will need. There is also growing interest in shaping the students' second year so that it follows up on and reinforces the first-year experience. A number of institutions point to the need to better integrate the residential, co-curricular, and academic components of the students' experience, for instance through merging some of the functions of Student Affairs and Academic Affairs.

With respect to faculty, there are three vital issues that must be addressed. The first is the continuing need to involve more and more faculty in pedagogy. There must be widespread faculty buy-in if genuine reform is going to occur. A second is to ensure that the full range of instructors are good instructors. At present, approximately 30% of the instructors at most research universities campuses are either adjuncts, post-doctoral fellows, advanced graduate students or fixed-term, non-ladder instructors. This group collectively is rarely addressed in discussions of undergraduate education. The third issue, identified by 20% of respondents, is to hire more full-time faculty, particularly in those departments that are most impacted by growing enrollments and revised general education. This latter issue is particularly acute at universities in the west which in some cases are facing a doubling of enrollment. Public research universities must work closely with state legislatures to make sure that adequate resources follow the mandates to increase enrollment.

The survey respondents noted certain themes that have emerged in the network meetings as well. For instance, assessment of education at all levels is now on the national agenda. Research universities are in a unique position to contribute to the discussion, determine appropriate measures and outcomes, and develop tools. Despite growing interest in undergraduate education, there remain serious structural and financial impediments to improvement and innovation. These vary widely and include departmental hegemony that typically drives resource allocation, organizational factors and traditions that hamper cross-disciplinary initiatives, and the intrusion at public universities of state boards in setting standards from enrollments to general education requirements.

The survey made clear the extent to which the Boyer Report has infused and even shaped national discussions of higher education. Many institutions have used it as both a reference point and as ammunition in their own efforts at reformation, and it is frequently cited in grant applications, accreditation reports, fundraising activities and lobbying of state legislatures and Boards of Trustees. One example is a recent Howard Hughes Medical Institute RFP which features the Boyer Report prominently in its promotions.

Caveat: Virtually all those responding to the survey were senior administrators. Either the entire survey or specific questions should also be sent to rank and file faculty and to undergraduates, both to correct biases and to develop a fuller picture of campus practices.

Network Activities and Issues

The major Center activity has been the formation of the four regional networks, which have met in New York, DC, San Francisco and Chicago. The New York group has had a second meeting as well. Collectively, the first round of regional meetings were attended by more than 160 individuals from 71 research universities. An additional 52 faculty and administrators from 15 institutions expressed interest, but were not available on the date of their regional meeting. This high level of response suggests the level of interest in an organization focusing on undergraduate education exclusively at research universities.

Discussions at all four meetings centered for the most part on the same issues and challenges. The common issues raised reflect recent efforts on virtually all campuses to bridge research universities' traditional emphases on research and graduate training with their new emphasis on undergraduate education and to offer an undergraduate experience that is synergistic with research universities' unique context and environment.

The issues mentioned by a number of campuses included: assessment; undergraduate research; the first-year experience; faculty issues; the role of departments; general education; science education; scaling up and sustaining successful initiatives; instructional technology; interdisciplinary efforts; shortages of financial resources; expanded enrollment; retention; and issues related to diversity and creating community.

There was also a common recognition across networks of the need for research universities first to define and articulate what an undergraduate education at research universities should look like and then to promote this vision. Research universities have begun to recognize this need and in their recruitment efforts are increasingly using language that emphasizes their enormous array of resources and the research opportunities they afford students. This theme, which distinguishes research universities from liberal arts colleges, seems to strike a powerful note among families and the students themselves. The Reinvention Center can play a lead role in sparking discussion and focusing public attention on this theme.

Subgroups

Each regional network will form focus groups to study specific issues and produce materials such as a manual with strategies on "how to" and case studies that can serve as guides to others, and sponsor programs. Regardless of where the focus group is located, cross-regional participation is welcomed.

The Northeast network, which has already met twice, has determined to establish three subgroups that will focus on the following topics:

- Faculty issues: Appropriate use of full range of instructors (i.e. adjuncts, non-ladder faculty, research scientists, technical staff); ensuring that all instructors are good instructors and are integrated into the university environment.
- Departmental issues: Changing departmental cultures, linking undergraduate, graduate and research missions, rethinking the curriculum, and taking advantage of the full range of opportunities and venues that are available.
- Science education: formation of task forces by discipline. Rethinking pedagogy, taking advantage of resources, disseminating research on teaching and learning.

At the DC meeting, those present identified three possible issues to focus on:

- Assessment in general. Assessment can be a powerful tool in affirming the value of the undergraduate educational experience at research universities. In order to develop good instruments that measure this value, we need to define goals and projected outcomes in a wide range of areas:
 - General education with respect to 1) critical and life skills development, and 2) connection to majors
 - The major in terms of providing essential foundations and specialized knowledge
 - Undergraduate research and creative activity on both the programmatic and the individual levels
 - Other components such as extra-curricular activities and residential experiences.
- Undergraduate research: What is it? What kinds of experiences are considered “research”? What are its goals? How can interdisciplinarity be encouraged in research projects? How can undergraduates in the humanities best be engaged? How can graduate students be engaged as mentors? How can outcomes be assessed? There is no single model or definition of what a “research experience” could/should look like. How do you take into account the many ways (being part of a lab team, completing a senior thesis, conducting independent study, or designing a creative project, for example) in which undergraduates can participate in research? Can conceiving of research participation as the centerpiece of students’ educational experience help us break out of the pattern of seeing the curriculum as made up of one-hour boxes?

The University of Delaware is among the leaders in efforts to assess the short- and long-term impact of undergraduates having a research experience. The group requested that Delaware be invited to give a presentation at a future network meeting.

- Graduate student issues: These include
 - Professionalizing TA instruction: Graduate students receive extensive research mentoring but seldom receive mentoring as apprentice faculty or training in pedagogy. Preparing Future Faculty (<http://www.preparing-faculty.org/>) and similar initiatives partner research universities with other nearby comprehensive universities and two- and four-year colleges so that doctoral students experience different teaching environments. This is not an option however for universities that do not have other colleges nearby.
 - Forging links between the undergraduate and graduate experience: In the sciences, research teams include high school students, undergraduates, grad students, post-docs and faculty. Can this model be replicated in the humanities and non-lab-based social sciences? How can graduate students be engaged in events celebrating undergraduate achievements?

Future Network Activities:

- Collaborating with disciplinary societies to shape discussion, influence faculty and disseminate information on curricular and non-curricular matters. Collaboration might be informal or it might include activities such as joint workshops or publication of articles in disciplinary association newsletters.
- Working with groups such as the AAU and NRC in offering programs that target specific groups such as chairs.

- Producing a public document on the unique attributes of a research university and the educational experience it can offer, and widely promoting it.
- Creating a group that cuts across all networks to work on increasing student participation in research and scholarly activity in the humanities.

Meeting Follow Up

1. Because of the low attendance at the DC meeting, those present felt that before definitively selecting the issues the network will focus on, all network members should be asked for their input. Please let us know first whether you are interested in working on any of the three issues identified at the DC meeting: Assessment, undergraduate research, and graduate student issues. In addition, if there are other issues you would like the group to address, send us your top 3-5 in ranked order. Please email them to the Reinvention Center: (Reinvention@sunysb.edu) by November 12. If you would like to discuss any particular topics, feel free to call Wendy or Mary Leming at: 631-632-4544 or 631-632-6998.

2. The Center Advisory Board will write up brief position papers on the issues selected by all the networks. We will distribute them to you. If you are interested in working on these issues, either on your campus, with professional/ scholarly associations, or with other network members, or can provide references to any relevant papers, other background materials or effective models, please let Wendy know. Again, she may be reached through the Reinvention Center (see above).

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