

SUMMARY OF THE REINVENTION CENTER MIDWEST
REGIONAL NETWORK MEETING

Chicago
May 21, 2004

I. Review of Reinvention Center Activities

- A. Interdisciplinarity: One of the strongest recommendations made at the Reinvention Center conference in November, 2002 was for the Center to work to promote interdisciplinarity in undergraduate education. The Center has followed up in two ways:

Math/Bio Project: The Center has just completed a study, funded by the NSF, to assess the extent to which and how quantitative approaches are being incorporated into the undergraduate biology curriculum at research universities and, conversely, to ascertain the ways in which undergraduate programs in mathematical and computer sciences are educating students about applications of quantitative concepts and techniques in biological research. The project was done in collaboration with the AAAS, MAA and ASM. An overview of the findings is attached. We will let you know when a more detailed report on the study is completed.

In addition, we are compiling an inventory of exemplary courses and programs at the bio/math intersection and posting descriptions of them in the Resources section of the Center's Web site (www.sunysb.edu/reinventioncenter). Although the inventory is still in a very early stage of development, we encourage you to check it out and to let appropriate colleagues know about it. We would like to include a wide range of examples and invite descriptions of courses at your university. To assist individuals in preparing the description, we put a form that lists all the information we require in the packet we handed out at the meeting. Please give it to colleagues who may be planning to send in description.

Spotlight Feature of the Center Web Site: Since the conference, the Center has twice made "interdisciplinarity" the focus of its Spotlight. The first Spotlight featured an essay by Greg Bothun, Professor of Physics at the University of Oregon on "Achieving Interdisciplinarity in General Education" and approaches adapted at UCLA, the University of Michigan, and the University of Texas. The current Spotlight, on "The Minor as a Vehicle for Interdisciplinary Education," offers an essay by Katherine Harrington, Associate Provost for Academic Programs at the University of Southern California and models that have been implemented at Binghamton University, Emory, the University of Massachusetts-Amherst, and the University of Oklahoma. Both Spotlights can be accessed through the Center's Web site (www.sunysb.edu/reinventioncenter).

We are planning a Spotlight on interdisciplinarity in new and emerging fields like biology and the quantitative sciences. If you would like your campus featured, let us know.

- B. SLC Initiative: In 2003, the NSF issued two new solicitations, both organized around recent advances in the "science of learning." One was to establish Science of Learning Centers (SLC) similar in goals, activities and level of funding to the existing Science and

Technology Centers, Engineering Research Centers and Materials Sciences Research Centers that the NSF has long funded. The second solicitation was for “catalyst” grants, to enable institutions to form partnerships that would lead to the development of a SLC. The Reinvention Center had submitted a proposal for a catalyst grant-- to study past and current NSF-funded Centers to determine the extent to which and how they have incorporated research advances into their undergraduate education; based on the findings, as well as on input from experts in the science of learning and various science disciplines, we aimed to identify effective models and practices and create an integrative prototype that campuses could use in developing an SLC. The proposal was rejected because the reviewers felt it did not fall within the SLC Catalyst program guidelines, which were designed to support local campus efforts to form consortia and lay the foundation for creating an SLC. The NSF is considering establishing a new category in its next solicitation that will accommodate proposals like ours. The Center will re-submit its proposal at that time.

The NSF plans to issue the next round of SLC solicitations some time in the late fall, 2004. Information will be posted on the Web site, probably in November.

- C. Center By-laws: Now that the Reinvention Center is almost four years old and appears firmly established, the Executive Board has determined to formalize its existence by creating By-Laws to guide its operation. The By-Laws strengthen the role of the regional networks by calling for the creation of Advisory Boards for each network. One member of each regional Advisory Board will also serve on the Executive Board. The Executive Board also determined to initiate a Center institutional membership fee of \$1,500 to be used for operating expenses and special initiatives. Those present appeared to recognize the need for the membership fee. Following the recommendations of the Northeastern, Southeastern and west coast networks, in recognition of the severe budgetary problems many universities are experiencing, the Center will not implement the membership fee until January, 2005.
- D. The Center as an Agent for Dissemination: The NSF is increasingly designating funds to support the creation of research and education centers that involve more than one campus. An example is the new program for Undergraduate Research Centers in Chemistry. The Reinvention Center encourages campuses that are responding to such solicitations to take advantage of its capabilities as an agent for dissemination. Doing so benefits both the applicants and the Center. It gives the applicants a national forum through Reinvention Center conferences, regional networks, and the Web site, as well as other special programs, to disseminate its activities and research findings; and it provides the Reinvention Center with a source of revenue that enables it to keep its membership fee low. A few campuses built the Reinvention Center into their SLC and URC proposals; in all cases the inclusion of the Reinvention Center was cited by reviewers as a real plus.

II. North Carolina State Survey

At the request of George Barthalmus at North Carolina State, Wendy Katkin distributed a survey that seeks information on financial support for undergraduate research at research universities was. The survey is attached here as well. If you haven't already done so, please fill it out and return it to George Barthalmus (address on survey) or The Reinvention Center (fax: 801-720-7529). North Carolina State will share the findings with the Reinvention Center and we will post them on the Center Web site.

III. A Review of the Program for the Reinvention Center's Next Conference

There appeared to be general satisfaction with the conference program. The Center has followed up on the names of individuals that were put forward as possible leaders of breakout sessions that did yet have confirmed leaders. At this point, we have confirmed leaders for all sessions except two, and invitations have been extended for those two sessions as well, so hopefully we are set. The only missing element is a CEO or other senior administrator from a private sector (preferably a high tech firm) to give a talk on the skills potential employers are looking for in graduates. The suggestion that we invite such an individual was made at the west coast network meeting, and there was strong support for it. **If you know of any individuals from the private sector who could speak to this or a related issue, please let Wendy Katkin know asap.**

A request was made that we create an additional breakout session on undergraduate journals. While this interest coincides with a Center interest (a project we have been discussing with Sigma Xi), at this late date it is hard to change the schedule. We will add an additional session if the registration for the conference warrants the creation of more breakout groups and if space at the Hilton Hotel, the site of the conference, is available. We are beginning to send out information on the conference and have set the early registration deadline at October 1 in order to get a sense of the registration and prevent that overcrowding that marred the last conference.

Following the recommendations made by the library faculty and assessment personnel who attended our last conference, we have not included sessions directed specifically at these groups. The members of both groups felt strongly that their activities should be integrated into the routine activities of departments and programs and that they themselves should play a role at the disciplinary and more general sessions. We will advise the breakout session leaders to be cognizant of this. We will also encourage the breakout leaders to emphasize the "nuts and bolts" of a program, as well as broad philosophical issues.

Also following recommendations of members of the group, we will allow more space for the Marketplace so that campuses can display their products and give demonstrations. In sending out instructions, we will be specific about the facilities that are available and the costs for renting tables, audio visual equipment, etc.

There was some discussion of how the Reinvention Center might publicize the conference. Suggestions included placing ads in local newspapers and writing "back page" or op-ed articles for publication in local newspapers. The articles might be on either the main conference theme (Integrating research and education: the value added) or on changes in undergraduate education at research universities in recent years.. The Reinvention Center should try to enlist some of the "big names" who are giving talks at the conference to write these articles.

The conference program is attached. Please feel free to distribute to colleagues on your campus or elsewhere who you think may be interested in attending. The conference program and registration information are now posted on the Reinvention Center Web site: www.sunysb.edu/reinvention. The Center plans to send targeted emails to different groups (i.e. organized by discipline and professional responsibility). We are compiling the lists now and welcome your recommendations of individuals we should include. Please send us names, discipline/sphere of responsibility and email addresses.

III. Development of a Prototype of a “Research” Learning Community

Capitalizing on the current interest on university campuses in creating small learning communities, the Reinvention Center is exploring the development of a prototype of a learning community organized around research. Such a community would target 1st and 2nd year students and consist of curricular and co-curricular activities designed to prepare them for meaningful participation in research. A distinguishing element would be the community’s strong grounding in the liberal arts and the linkage between students’ science education and their study of literature, writing, and ethics for example. The goal will be to develop a model that engages students in inquiry-based learning early and helps them from the outset to develop the broad competencies and specific disciplinary skills they will need for a productive research experience.

This discussion of what this prototype might look like was organized around two presentations – one by Linda Blockus, Director of the Office of Undergraduate Research, at the University of Missouri, on Missouri’s Freshman Interest Groups (FIGs), and the second by Sandy Gregerman, Director of the Undergraduate Research Program at the University of Michigan, on the Michigan Community Scholars Program. The Missouri FIG program has been in existence for ten years and involves 1200 students (25% of the first-year class). Descriptions of the overall program and individual FIGs may be found on the Missouri Web page: www.missouri.edu/~figwww/; www.missouri.edu/~new2mu/2004/FIGs.php). While the FIGs all have academic, social and residential components, and some have programs in which faculty and undergraduates talk about their research, promoting undergraduate research and/or preparing students to participate in research have typically not figured prominently in FIG activities. The question Linda and the group discussed was how a research component might be incorporated into this model.

Michigan’s Community Scholars Program offers an interesting contrast. Only three years old, it is a residential program for 1st and 2nd year students that was created at the urging of students who had participated in the University’s Undergraduate Research Opportunity Program. Research thus is the organizing and driving force. The scholars, for example take a 1-credit mini course “Introduction to Research,” as well as a research seminar that is linked with their composition course and trains them in different modes of scholarly writing; they have frequent interaction with faculty researchers; and they have their own research symposium. Sandy has provided two files (attached) that provide an overview of the program. .

A major challenges in creating this and similar communities is in engaging faculty. While faculty are amenable to participating in individual events and to supervising individual students, it is often difficult to persuade them to become involved in a more sustained effort. One strategy that was suggested is to use the freshman seminar as an inducement. Faculty are often amenable to offer seminars on a topic that relates to their own research. Similarly, graduate assistants who teach Freshman Composition course should be encouraged to organize the course around their own research. This approach builds on the common practice of faculty bringing their research into upper level seminars.

IV. Humanities Initiative.

Humanities faculty attending the Reinvention Center conference in 2002 urged the Center to sponsor forums that focus exclusively on undergraduate education within the Humanities. The Center followed up with a proposal to the NEH, to establish a network made of faculty whose research and/or teaching is in literature; the idea was for the network to provide a structure through which these faculty collectively could address disciplinary and institutional challenges that are fundamental to undergraduate teaching and study of literature. The proposal was

rejected. The Center is therefore moving forward another way. First, it has set aside time at all four network meetings in the spring 2004 for discussions of what faculty would like to see happen at the forums and to consider also such questions as what undergraduate scholarship means in the humanities and how scholarship should be conceptualized in relation to the discipline and in relation to interdisciplinary interests. Following this round of meetings, the Center will convene a small group of faculty across all humanities disciplines to sift through and give shape to the recommendations and develop an agenda for the Center. Colleagues from the Carnegie Corp., National Humanities Center, ACLS and possibly organizations like the Consortium of Humanities Institutes and Centers (made up of directors of Humanities Centers), will be invited to participate.

Jerry Graff, Professor of English and Education at the University of Illinois-Chicago, led the discussion. He began by noting the distinction between teaching books and teaching about books. In most literature courses, the emphasis is almost exclusively on teaching books, and there is a reluctance to teach undergraduates about books. Students therefore are not exposed to the background of research. The problem with this approach is that students cannot know about a field unless they know what scholars in the field are thinking. Students should be exposed to critical thinking about the field as a means of entry into the work under study, as well as to the work itself.

Historically, humanities research has not been collaborative, and faculty typically are not prepared to take on collaborations. Technology however is changing the way humanity scholars do research, and it is offering new opportunities to get students involved—as the work of Jerry McGann, Professor of English at the University of Virginia, and Martin Mueller, Professor of English and Comparative Literature at Northwestern demonstrate. It also offers a rare opportunity to get financial support for humanistic scholarship, for projects involving digitalization, for example. Several people at the meeting expressed the concern that “research” involving technology might simply mean inserting codes. Northwestern has addressed this problem by creating two distinct categories: Internships in which students who have technical skills help in course development and research, and Research Grants which require a student’s faculty supervisor to articulate the scholarly advantage students will gain from the proposed work.

Humanities faculty need to create new courses or re-think existing ones in order to prepare and engage students in research. Haverford, for example, offers a History Methods course in which students do historical research. Humanities majors might be required to take courses in Critical Thinking or Critical Inquiry that will socialize them into thinking in a field. Students can assist faculty in developing these and other courses. By working with faculty on course development, they would gain unique insights into how knowledge in a discipline is created. Faculty can also teach seminars that focus on their own research and engage students in the study of related topics. Such seminars, which are common in the sciences, offer perhaps the best way to integrate research and teaching. In many cases, they may be part of a faculty member’s regular teaching load.

Another approach is to exploit colleagues who are writing by having undergraduates help them with a book. Students for example can read drafts and write comments. These comments might help faculty to write better. One innovative idea that was put forward is to create a course on “Writing a Book.” Humanities scholarship is profoundly social and working with a faculty member or a graduate student will enable students to learn to situate themselves with respect to a field.

Humanities Institutes can be especially helpful. As interdisciplinary units, they foster conversations and collaborations across disciplines and academic units and therefore have the potential attract students with diverse interests. They often have active visiting speaker programs that require the visitors to give graduate seminars. Advanced undergraduates should be invited to participate in these seminars. In addition, as part of the visit, speakers should be asked to give a talk directed at undergraduates. Departments should be encouraged to do this as well. Since Humanities Institutes often organize their activities in an academic year around a single theme or topic, students will have the opportunity to be exposed to diverse research on the topic and to hear different perspectives. It was recommended that the Reinvention Center invite Marjorie Garber, the current head of the Consortium of Humanities Institutes and Centers, to participate in the Humanities initiative meeting it is planning for November.

Some humanities courses are organized around a lecture series or a single topic. Where possible, the course instructor should invite writers whose works are being taught in the course to speak to the students. This will enable students to look at the work from the different points of view of the different speakers.

Humanities faculty need to address the question of what “originality” means in terms of undergraduate scholarship. For many students the word “originality” is intimidating. Within the context of the humanities, however “originality” can apply to work in which students find their own opening. Unlike in the sciences, humanistic research is not necessarily “additive” or “positive.” It often involves interpretation-- entering a debate and making a coherent and persuasive argument. Undergraduates need to learn how to frame a “claim within a dispute” and “stake out” their claim as part of the conversation in the field. This learning should begin within the context of courses. What can faculty do in their courses to teach students to define a research problem, gather the information and knowledge necessary to address the problem (in other words, do research), and write a sustained paper in which they make their case? As a starting point, Cathy Birkenstein-Graff, following the lead of Howard Gardner, propose using templates that give students the vocabulary and conventions for entering an intellectual conversation and guide them in formulating an argument. Faculty should also take advantage of case studies and text materials like those found in the *Norton Critical Editions* which offer students good models.

Presenting students with the critical conversation about books will enable them to see that literary study is more than reading books themselves. It may involve getting into archives, reading other primary as well as secondary source materials, and making connections with other spheres learning, including items in popular media

V. Undergraduate Research Journals

There was a brief discussion on the merits and efficacy of undergraduate research journals (online and in printed format). Three obstacles were mentioned: the high cost of publication, quality control, and the preference of many science faculty to have their students publish in professional journals. The positives however seem to outweigh the negatives. The University of Kentucky publishes a high quality undergraduate journal that cost \$25,000 per year. The University administration feels this money is well spent because the journal is used for recruitment, to educate state legislators about the university, and to assert the importance of research in the undergraduate education Kentucky offers. Other universities also use their journals for recruitment purposes and as a way of engaging undergraduates in research. The University of Michigan’s undergraduate journal includes articles written by faculty about their experiences working with undergraduates. A question was raised about the merit of faculty versus student

editorial boards. Most journals have student editorial boards. The editorial board for the University of Kentucky journal is made up exclusively of faculty.