

Reinvention Center
Meeting of Vice Presidents for Undergraduate Education¹ at Research Universities
University of North Carolina at Chapel Hill
October 28, 2005

Attendees: Wendy Katkin (R.C. Director), Kathleen Flint (R.C. Assistant Director), Milton Adams (U of Virginia), Thomas Conway (North Carolina State), Lucia Gilbert (U of Texas at Austin), Donna Hamilton (U of Maryland), Karl Heider (U of South Carolina), Dennis Jacobs (Notre Dame), Phil Kraemer (U of Kentucky), Karen Laughlin (Florida State), Laurie McNeil (UNC-Chapel Hill), Robert E. Megginson (U of Michigan), Bobbi Owen (UNC-Chapel Hill), Howard Shapiro (Wayne State), Robert Shelton (UNC-Chapel Hill), Lynn Williford (UNC-Chapel Hill), June Youatt (Michigan State)

Introduction and Welcome

Reinvention Center Director Wendy Katkin opened the meeting by introducing our UNC hosts Bobbi Owen, Associate Dean for Undergraduate Education, College of Arts and Sciences, and Professor of Dramatic Art, and Robert Shelton, Executive Vice Chancellor and Provost, who welcomed the group.

She then reported on a recent Reinvention Center initiative – 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 will be a five-day summer institute (June 18-23, 2006) during which 24 faculty in diverse disciplines will develop the 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. The Center will learn in March whether the project will be funded. Because of the tightness of the scheduling (a consequence of NEH’s funding cycle), the Center is compiling a list now of faculty interested in participating. Assuming the funds are granted, participants will receive \$1,000 stipends. So, please help spread the word. Faculty who would like more information should contact Wendy (wendy.katkin@sunysb.edu; 631-632-6998) and/or submit an application form. The proposal, institute program, and application form are attached.

***Stan Katz, the faculty member listed in the proposal as leader of the group on the Constitution, is unable to do it, so we are looking for someone to take his place. If you have any colleagues whose research and/or teaching relates to the Constitution who might be interested, please let me know ASAP. Group leaders will receive a \$2,200 stipend.

Reforming General Education: University of North Carolina at Chapel Hill

Bobbi Owen, together with her colleagues Lynn Williford, Assistant Provost and Director of Institutional Research, and Laurie McNeil, Chair of the Department of Physics and Astronomy and Chair (2000-03) of the Undergraduate Curriculum Review Committee, gave a presentation on the University’s experience in reforming its general education curriculum and the lessons learned.

Lynn Williford began by providing some background. The existing general education curriculum had been in place since 1980; though it had been reviewed periodically, there had not been any attempt at full curricular revision in 25 years. The decision to undertake an extensive review came about as a result of a self study carried out in 1995 in conjunction with the University’ re-

¹ We are using this term generically to refer to the senior officials at research universities who have primary responsibility for undergraduate education.

accreditation. The study, which surveyed student and faculty on their perceptions of the curriculum, found that, while undergraduates felt that their general education courses prepared them well for further study, they deemed the curriculum as complicated, saw little connection between courses and requirements, thus making it difficult to figure out if they met specific requirements, and had insufficient opportunity to interact with faculty. Faculty were unclear about the goals and requirements of the general education curriculum, thought general education courses too often were not leading to the development of basic skills or adequate preparation for upper level courses, and felt also that there was a need to update the curriculum to include more emphasis on globalization and diversity, for example. A more detailed follow-up *Study of the Intellectual Climate* (1996-1998) corroborated these findings and noted also the need for greater student engagement in more active or experiential forms of learning across the curriculum. The Undergraduate Curriculum Review Committee was established in 2000 to respond to these needs and to implement recommendations put forward in the *Study*. The Committee was chaired by Laurie McNeil, Professor of Physics, and made up of 14 faculty in a range of disciplines and two students. Its charge was to undertake a comprehensive assessment and revision of the general education curriculum, which consisted of all undergraduate requirements except for those required by the major and the total credit hours needed for graduation. Although it was believed that the review would take two years to complete, it actually required three years: Year one for preliminary activities, especially assessment of the existing curriculum; Year two to develop an initial draft of a revised curriculum; and Year 3 to develop and gain approval of a final version.

Laurie McNeil next outlined the process through which she and her committee went about their task. See <http://www.unc.edu/curriculumrevision> for a more detailed description.

Year One: The main activities were to form the steering committee and, with the help of Lynn's office, conduct a detailed curriculum assessment. The primary interest in the assessment phase was to stimulate reflection and determine the statements and goals that would drive the curricular reform effort. The assessment was accomplished through 1) forums at which scores of faculty, students and alumni were asked basic questions about "what is an educated person?" and 2) surveys of students and instructors in general education courses about positive and negative aspects of the curriculum and their perception of aspects that might be missing. Based on the findings (see the power point presentation) the steering committee members developed a good sense of what the existing curriculum was and was not doing, and it identified "outcome goals" which embraced the knowledge and skills students would need in order to graduate as well-informed citizens and life-long learners. See:

<http://www.unc.edu/curriculumrevision/documents/outcomegoals.htm>. These outcome goals formed the basis for the new general education curriculum. They were organized around a three-pronged framework: Foundations: the foundational skills that facilitate future learning; Approaches: broad experiences with the methods and results of the most widely employed approaches to knowledge; and Connections: a sense of how to integrate these approaches to knowledge in ways that cross traditional disciplinary boundaries.

Year Two: The primary task was to translate the outcome goals into curriculum requirements. In Fall 2001, Laurie's committee formed 16 satellite subcommittees, each of which was charged with examining outcome goals in one category (e.g. Foundations, Approaches, or Connections) and proposing requirements to meet it. The subcommittee assignments were:

Foundations: Committee F: Foreign language; Committee P: Health, Wellness, and Physical Activity; Committee Q: Quantitative Reasoning; Committee R: Critical Thinking and Research Skills; Committee W: Written and Oral Communication

Approaches: Committee H: Historical analysis; Committee M: Philosophical Analysis and Moral Reasoning; Committee N: Natural Sciences; Committee S: Social and Behavioral Sciences; Committee V: Visual, Performing, and Literary Arts

Connections: Committee B: General Education and Study in Depth (i.e. the major; What fraction of study should be devoted to each?); Committee C: Capstone experiences (Should they be part of the major or general education?); Committee G: Global Citizenship; Committee I: Interdisciplinary Study; Committee L: Pathways (such as connections to the community, and between faculty and students); Committee U: U.S. Diversity: Understanding the nature of the society in which we live.

Each subcommittee had five-to-ten faculty, some staff, and one or two students. The members were carefully chosen so that all the committees had a balance of interests and disciplines, at least one member who was a “skeptic,” (i.e. a poet on the science committee) and a chair “who did not have a vested interest in the focus of the committee” (i.e. the chair of the writing committee was not in English). The latter was done to avoid turf wars and conflict of interests. The satellite committees prepared reports (Spring 2002), which the Undergraduate Curriculum Review Committee synthesized into a draft curriculum. The draft was posted online in April 2002 for review and comment by the University community by the end of the semester. Collectively the reports produced about 150 recommendations, which Laurie and her committee had to whittle down. With the exception of the Critical Thinking committee, most of the satellite committees recommended courses.

Year 3: This year was spent discussing, revising and refining the draft curriculum and gaining approval of a final proposal. There were two faculty forums--one to review the initial draft, and a second to review a revised version---attended by about 200 faculty, and one student forum. Although not many students attended the student session, those who did were engaged and thoughtful in their comments. In addition, as part of her effort to educate and engage faculty, Laurie offered to visit departments to answer questions and concerns; only a few accepted her invitation.

An important aspect of the penultimate draft (version 1.3, posted October 2002) was the inclusion of explicit criteria courses had to meet to fulfill the curricular requirements. This version was submitted to the Subcommittee on General Education for the Administrative Boards of the College of Arts & Sciences and the General College and the Educational Policy Committee of the Faculty Council (a faculty senate of all colleges) for approval. Following a few minor revision the final curricular proposal (version 1.4) was submitted to the Faculty Council and adopted in April 2003.

Throughout the process there was extensive communication between Laurie and her committee and the two Administrative Boards whose approval of the curriculum was essential. The communication was critical because the Boards could have rejected the entire process. In contrast, the Dean of the College of Arts and Sciences disconnected herself from the process, maintaining that she had appointed the chair and committee and wanted them to produce the best possible curriculum, without regard to cost.

Laurie, as chair, was given a reduction in teaching responsibilities and a part-time secretary who helped maintain the curriculum Web site, among her other duties. Laurie, and Bobbi Owen who followed her in the presentation, noted potential challenges in undertaking this kind of general education reform effort: Budgetary factors, which were not a constraint in the developmental phase, but which have impeded implementation; gaining faculty “buy-in; and the enormous

investment in real time and energy required of the chair. The elaborate committee structure, which involved 150 faculty in the process, was a major factor in its success. Equally important was the scope of the reform. Laurie and Bobbi both emphasized that there was no struggle over ideas about general education. Rather, controversies arose in smaller arenas, as for example a dispute over the abolishment of a swimming requirement. The major innovation was a changed notion of general education from a curriculum made up of lower division courses to one that permeates all four years. Some of the Connections requirements, for example, involve applying the foundational skills within the major discipline and may be taken in the fourth year. Another difference was one of emphasis. Examples: The scope of the old English Composition course was broadened to include oral communication. The emphasis in basic Foreign Language courses changed from translation to communication through writing and speaking. Since the thinking behind the new curriculum was not radically different from that of the old curriculum, there was already significant “buy-in,” making the task of reform easier. Many faculty, for example are embedding assignments into existing courses in order to meet specific outcome goals.

Bobbi Owen concluded the presentation by providing an overview of the implementation process, which will begin with first-year students in the Fall 2006. Laurie’s committee was dissolved after the new general education curriculum was approved. It was replaced in the Fall 2003 by an Implementation Committee whose charge was to refine the course criteria, determine the next steps, develop a timeline, and prepare a budget for implementation. (The budget came to \$4.7 million in new money). The first major challenge was to develop the criteria and produce a Criteria Document that explained the criteria that would be used to determine whether a course satisfied the new curriculum requirements. In developing the criteria, committee members had to answer such questions as “How much writing does there have to be?” How much time has to be devoted to each criterion? “Do power presentations ‘count’ as writing?” The next task was to re-number all undergraduate courses, which historically were numbered only to 200. A new computer system was built to handle the re-numbering. While cumbersome and unpopular, the process of re-numbering turned out to be extremely useful in that it provided an opportunity for faculty to revisit all courses in detail to determine their suitability for the new curriculum. Twenty subcommittees (each with three to five members) were established by the Administrative Board of the College of Arts and Sciences to conduct the course reviews. Collectively, the subcommittees reviewed 4,000 syllabi over the course of four months. The review process worked well because in looking at the syllabi, each subcommittee, focused on one criterion. In addition, the involvement of so many faculty led to increased engagement.

In addition to the principal activities of course identification and approval, the Implementation Committee had other important corollary tasks: Changing related requirements (e.g. credit rules, major/minor requirements) to accommodate the new general education curriculum; Re-writing the Undergraduate Bulletin to incorporate the requirements and eliminate discrepancies with the old model; Revising the transcript notations with a legend that translates between the new and old numbering systems; and Revising admissions material and Web-site information.

Developing the requirement that students take an upper-division cross-disciplinary cluster of courses has been put off until 2007 because entering students have many other requirements to fill before getting to that one. To facilitate implementation the University administration created the new position of Assistant Dean for Experiential Education and the Cluster Program. In addition, the Associate Dean for Undergraduate Education has undertaken a communications-campaign which includes for example, meeting with high school guidance counselors to make both them and prospective students aware of the kind of education they will be receiving and revamping the curriculum Web pages.

The budget allocated to date has been \$2 million - - significantly less than the projected amount. However if the costs of the delayed Foreign language requirement are removed from the initial request, and the requested funds for implementing the cluster program are forthcoming, the budget request will balance with the budget allocation.

See the attached PowerPoint presentation for details of the new curriculum, or visit the Web site at <http://www.unc.edu/curriculumrevision/>.

Assessment

From the outset, UNC's general education reform effort was goals oriented and driven by the question, "What are the outcome goals we want for our students? When asked how they propose to assess the new curriculum's effectiveness in producing the desired outcomes, Bobbi said that while they could identify some specific aspects to measure, they are still struggling over a more comprehensive approach. Her response resonated with virtually everyone. A major challenge facing UVPs is figuring out how to assess aspects of their undergraduate education so that it makes sense in terms of the campus's goals for students and also satisfies accrediting agencies criteria. One particular area of interest is demonstrating the knowledge and skills gained through participation in research. Myles Boylan, director of assessment of undergraduate education at the NSF, to the next national UVP meeting, is especially knowledgeable and interested in this subject. Wendy suggested inviting him to the next national UVP meeting which will take place in Washington DC on November 8 (the day prior to the Reinvention Center conference). Others suggested also inviting someone from an accrediting organization to offer the organization's perspective. The group expressed great interest in this idea. Other we may want to invite include assessment experts Trudy Banta and Peggy Maki, and Louis Menand, who, though not an assessment specialist, has written about higher education issues. Everyone agreed that effective assessment has been impeded by the faculty's lack of interest and even hostility toward it. One strategy that might stimulate their interest is to discuss assessment in terms researchers understand-- to get faculty to look at their teaching the same way they approach their research and to focus on goals, desired outcomes and the need for evidence. The Reinvention Center used this approach to at its last conference when it sought to stimulate interest in pedagogy. The program included several talks on recent research on learning. The talks were extremely well received by the faculty who were present and many noted on their Conference Assessment Forms that they would be more likely to take advantage of the teaching resource centers on their campuses if their work programs were more research-based. This suggests that faculty might be more amenable to issues relating to pedagogy and assessment if they are grounded in solid research. The group urged the Reinvention Center to include more sessions on the "science of learning" at the next conference.

Creating a Culture of Undergraduate Research: the Roles of Administrators, Faculty Leaders, Departments, and Students

Lucia Gilbert, Vice Provost for Undergraduate Studies, Professor of Educational Psychology, and Frank C. Erwin, Jr. Centennial Honors Professor at UT Austin, reported on UT's efforts to create a culture that encourages and facilitates scholarly and creative activity by students.

UT is a research-intensive university with 48,000 undergraduates. The administration's decision to reform UT's undergraduate education in ways consistent with its research mission was stimulated by the Boyer Commission report (1998), which served as a basis for the reform effort. In fact, UT's goals for its undergraduate education came directly from the report. The notion was to create a culture of undergraduate research by "weaving" research and cross-disciplinary perspectives into the "fabric" of the students' education. The goal was to produce graduate who

when they leave UT will have had a certain research-based experience that others will recognize and know. In undertaking this transformation, the University leaders were guided by several principles: The new model be built on existing resources, especially faculty research strengths and course offerings, in order to ensure sustainability and effectiveness; the focus be on general education; the experiences students have build upon one another; and the establishment of new programs and other changes be done in collaboration with Colleges and their departments and faculty.

Working closely with the Provost, Lucia's first step was to bring together six faculty well known for their interest in undergraduate education to put forward ideas and develop a plan. Their deliberations resulted in the establishment of Connexus: Connections in Undergraduate Studies a new office that reports to Lucia. Its charge is to initiate and support a diverse set of programs that enhance undergraduate education and research in a cross-disciplinary way. In establishing Connexus, Lucia actively enlisted key administrators, faculty and units whose support would be critical. These included the Vice President for Research, the Associate Deans of UT's various colleges, and the Center for Instructional Technology. Although the College of Engineering was initially reluctant, she was able to get all these individuals and units behind her by presenting her plan and making sure that they did not have to do the work--a strategy she strongly recommends. She also brought in the University's Office of Public Affairs whose role is to keep the general public, including state government officials aware of what UT is doing with respect to undergraduate education generally, and research specifically.

One of Connexus's first major initiatives was to create EUREKA! (Enhancing Undergraduate Research Experiences, Knowledge & Access!), which is both a resource and model for undergraduate research. The resource EUREKA! is a comprehensive Web-based database designed to increase undergraduate participation in research by connecting students with faculty (<http://www.utexas.edu/research/eureka/>). Key features include:

- Options for users at different levels and with different needs. Searchable headings, for example, include "faculty," "discipline," "department" and "subject" as well as other key words. The "faculty" heading contains profiles of all 1,800 UT faculty with descriptions of projects that welcome undergraduates. There is a general interdisciplinary subject heading that allows users to get a sense of the range and breadth and diversity of research on campus.
- A guide that educates students about what participation in research signifies and entails, how it varies across disciplines, and how to become involved.
- A monthly spotlight that features students and faculty engaged in research

EUREKA! has a place for student profiles; the profiles may be used as "resumes" for the purpose of inquiring about a research position. Students are encouraged to create their own profiles within EUREKA!.

Students who use EUREKA! and would like to become involved in research are directed to research coordinators, full time professionals whose role is to facilitate connections among students and faculty and help students identify an appropriate research placement. Their guidance may include directing students to specific courses to gain knowledge or skills necessary for participation in particular projects. The coordinators also serve the important role of "protecting" faculty. As intermediaries, they interview and screen students to determine their readiness for a research placement and guide their choice. Students who find research placements through EUREKA! are required to sign a contract that outlines the requirements of the project. EUREKA! is centrally budgeted and can provide some degree of research support and scholarships for students and faculty.

The question was raised as to whether faculty are able to see all inquiries about their research made through EUREKA!– perhaps through a mailbox in which students can leave a note indicating their interest and a resume. Lucia explained that faculty may choose to receive inquiries directly, but they are always also routed to a research coordinator. She and her staff prefer using research coordinators as intermediaries primarily because they want to ensure that students always receive some kind of a reply.

The research coordinators are critical to EUREKA! and critical to UT’s effort to increase the number and range of students involved in research. In addition to advising the students they encounter through EUREKA!, the coordinators visit first-year freshman interest groups and Forum Seminars (see below) to educate students about research opportunities on campus and make them aware of the dimension participation in research can add to their education. UT Austin currently has two cross-disciplinary research coordinators who report to the Vice Provost and a third coordinator located in the College of Natural Sciences. Some questions were raised about the number and credentials of the research coordinators, two of whom have Masters degrees and may lack the credibility a PhD in this position would have. Lucia agreed that the low number of coordinators may become a problem as more and more students seek their help, but at this point she cannot hire any more because of financial constraints. Similarly, the professional level of those she hires is also determined by budget, though right now she is fortunate to have two very savvy people. The suggestion was made that she engage academic advisors in promoting undergraduate research and directing students to appropriate preparatory courses. A second suggestion is to establish departmental research liaisons – faculty or postdocs charged with assisting majors in their department.

The model EUREKA! is more expansive and refers to undergraduate research generally. Steps are now being taken to weave research and research-related activities into the curriculum. These include:

- Developing a consistent set of “undergraduate research” course numbers to denote the activity
- Offering first-year and “Forum Seminars” which enable undergraduates, faculty, and TAs to probe one subject or theme (e.g. environment, ethics, leadership) from multiple disciplinary perspectives. The undergraduates are required to write a reflective paper relating to the theme The Forum Seminars are limited to 50 students.
- Building research into interdisciplinary general education courses that are organized around themes. In a course on “water,” for example, students look at water from the diverse perspectives of a geologist and a poet. These courses culminate in a research project.
- Working with faculty to identify research components within courses and experimenting with targeted research methods courses
- Creating ePortfolios that highlight a student’s research or creative activity as an integral component of their undergraduate experience. ePortfolio are good tools to help students reflect on their experiences and are especially useful when they are applying for graduate school or special fellowships.
- Developing a searchable database of courses with a significant research component

One of UT’s most ambitious efforts is the Bridging Disciplines Program (BDP), an 18-to-24 hour interdisciplinary certificate program organized around general education requirements, electives and research through which students have a sustained interdisciplinary experience. The program is intended as a complement to the major, and provides a structured pathway for those interested

in certain topics. All students enter UT through a College in which they have a major. Those who enroll in the BDP take a Forum Seminar and an area requirement in year one, area requirements that fit the theme of their BDP in years two and three, and upper-division courses approved for the BDP in year four. Throughout, research experiences are used to integrate their learning. There are currently six approved BDP themes, each developed and guided by 10-12 member faculty panels nominated by deans and departments: Children and society, cultures and identities, digital arts and media, environment, ethics and leadership, and population and public policy. Each has its own pathway that includes a combination of required courses and electives chosen and approved through agreement between the student and the advisory faculty panel. In addition to the certificate, students who successfully complete the program have their participation noted on their transcripts

Lucia noted that BDP does not add courses to students' course of study. Rather it is a repackaging of existing courses. She anticipates that BDP students will graduate faster than the average student because they have a more coherent plan for fulfilling their requirements.

In an effort to assess the effectiveness of EUREKA! Lucia and her staff have identified a number of evaluation indices. At present they are tracking the number of hits the Web site receives, number of inquiries the research coordinators receive, number of projects offered through EUREKA!, among other quantitative measures. They are also using student self-evaluations of the experience. While they have yet to determine if undergraduate research has increased or if more faculty are involved, they have begun to require that faculty report undergraduate research supervision in their annual reports. Their goal is to develop a more sophisticated understanding of how EUREKA! is having impact on undergraduates and faculty.

Following Lucia's presentation, the group debated whether it would be possible to create a genuine "culture of undergraduate research" without first changing the promotion and tenure (P&T) system to recognize and reward supervision of undergraduates, as well as other activities that demonstrate a strong commitment to undergraduate education. Wendy noted that effecting such change was the second highest need identified by attendees at the Reinvention Center conference last November. One member of the group suggested that a change in P&T practice is not necessary if the academic culture itself begins to value undergraduate research and supervision of undergraduates becomes a routine faculty responsibility. An important step in changing the culture is to promote undergraduate engagement in research in disciplines that do not have such a tradition, most notably the humanities. There are signs that change here is already occurring as research is becoming more collaborative and courses and syllabi in the humanities are becoming more research oriented. The University of Maryland has created a 300-level "Introduction to Critical Methods" course in English that includes a research project. Wayne State offers seminars with a research link. Gerald Graff, Professor of English and Education at the University of Illinois at Chicago, gives his students drafts of papers being written by his colleagues and asks them to critique them. Their critiques are given to the faculty who as they revise the papers stay in touch with the students, thus providing the students insight into the scholarly process in these disciplines. The Center Web site has recently spotlighted several other models of undergraduate research projects in the humanities. See: <http://www.sunysb.edu/Reinventioncenter/Spotlights/Humanities%20Spotlight.htm>.

Next Reinvention Center Conference and Next Spotlight

We are currently working on the program for the next Reinvention Center conference. The attached draft reflects your suggestions. *Note that the conference dates have been changed from November 16-17 to November 9-10.* If you have recommendations for speakers or session

leaders, please pass them on. Or if you have further suggestions regarding the program, pass them on as well.

The national UVP meeting will take place on Wednesday, November 8. So, mark your calendar.

Finally, the Reinvention Center Web site “Spotlights” topics of interest to the research university community. We would like to have a 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, let us know.

We are also planning a “Spotlight” on the applications of technology in a range of educational settings and are looking for good models to showcase. The settings may range from high enrollment and introductory courses to science and writing laboratories to classes in the fine or performing to seminars to individual or class research activities and they may encompass any discipline.

To see what “spotlighting” your initiative will entail, we invite you to visit our Web site; <http://www.sunysb.edu/Reinventioncenter>.

Next Meeting

The group voted to meet again in the spring. Thanks to an invitation from Milton Adams, we will have the meeting at the University of Virginia on April 28. Stay tuned for details.

P.S. Since we would like to choose a date that works well for most people if you are aware of another major meeting being held on April 28 that many in the group are likely to attend, please let us know asap. (reinvention@sunysb.edu)