The **National Center** for **Academic Transformation**

Experts in improving learning and reducing cost in higher education.

The Learning MarketSpace, January 2007

A quarterly electronic newsletter of the National Center for Academic Transformation highlighting ongoing examples of redesigned learning environments using technology and examining issues related to their development and implementation.

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1. THE CAT VIEWPOINT

Offering perspectives on issues and developments at the nexus of higher education and information technology

Lessons Learned from the Roadmap to Redesign

In the October 2006 issue of *The Learning MarketSpace*, we reported on the results of the projects involved in the Roadmap to Redesign (R2R) program. In this issue, we share some observations about what we what have learned from the program.

R2R's basic objective was to demonstrate the feasibility of redesigning large-enrollment introductory courses on a wider scale using a set of redesign tools and methods developed in the Program in Course Redesign (PCR).

R2R lacked the infusion of $200,000 in external funds that each PCR course redesign project enjoyed. R2R participating campuses had to implement their redesigns using their own resources with support from NCAT and PCR participants. The essential ingredients of R2R were:

- A series of course redesign planning resources that incorporated the lessons of the PCR to be used by R2R campuses in planning and implementing their redesigns.
- Experienced advisors in the form of NCAT staff and members of four "Academic Practices." The latter were established in four disciplines (precalculus mathematics, psychology, Spanish and statistics) and comprised faculty and administrators experienced in course redesign through the PCR.
- An annual project workshop in which redesign techniques were presented and results were shared among participating campuses.

What Led to Success?

When R2R began, we said that we could *guarantee* that new institutions could improve student learning, increase retention and reduce instructional costs *if* they followed our advice—derived from the successes achieved in the PCR. Did the R2R redesigns conform to the principles of effective redesign previously established by the PCR—that is, did participating campuses "follow the rules"?

All 15 of the redesigns that reached the implementation stage used one of NCAT's five course redesign models (Supplemental, Replacement, Emporium, Fully Online and Buffet) as did the five that eventually withdrew or were dropped from the program. All 15 of the redesigns incorporated technology and reduced lecture time. Most incorporated techniques that encouraged active learning and/or rested on mastery learning. Most improved student assessment systems, incorporated student tutorials and included on-demand help. The majority incorporated proactive intervention techniques designed to keep students on track such as assigning and grading practice problems or homework. Finally, most adopted learning resources that were either commercially available or had been developed through the PCR. All five of the institutions that eventually withdrew or were dropped from the project also incorporated most of these features in their original redesign plans.

R2R reaffirmed the lessons learned in the PCR. The pedagogical techniques (active learning, online tutorials, continuous assessment and feedback and on-demand support) that led to increased student learning in the PCR also led to increased student learning in R2R. Similarly, the cost reduction techniques (online tutorials, automated assessment, course management systems, shared resources and staffing substitutions) that led to reduced instructional costs in the PCR also led to reduced instructional costs in R2R. This second "proof of concept" in course redesign validated what was previously learned in the PCR.

Learning from Experience

While we now know what works well—and what we need to do in order to achieve the goals of course redesign—we also know that getting there means a lot of hard work. Course redesign is not a silver bullet. Putting the good ideas derived from the PCR into practice represents a real commitment on the part of participating institutions, especially when implementation challenges rear their ugly heads.

At the outset, NCAT tried to provide an "early alert" to the R2R institutions by identifying the five most important implementation issues encountered by the PCR projects. NCAT encouraged the new institutions to pay special attention to how they would:

- Prepare students (and their parents) and the campus for changes in the course.
- Train instructors, graduate teaching assistants, and undergraduate peer tutors.
- Ensure an adequate technological infrastructure to support the redesign as planned.
- Achieve initial and ongoing faculty consensus about the redesign.
- Avoid backsliding by building ongoing institutional commitment to the redesign.

Indeed, once the redesign implementation phase was launched, participating campuses encountered implementation challenges corresponding to those to which they had been alerted.

Preparing Students. About two thirds of R2R participants indicated that they experienced some difficulties in preparing students for the new format. Most common here were negative student reactions to the perception that the class was "an online class" that they did not think they had signed up for or that it "had no teacher." These challenges were addressed by more up-front engagement with advisors to explain what the course would be like and the development of written materials and orientation sessions that explained the new format. Student complaints also diminished as they gained more experience with the new format and recognized that it was here to stay.

Preparing the Campus. A majority of participants also reported encountering challenges associated with preparing others on campus for the redesigned format. Most of these were related to advising, where advisors did not provide correct information to students or simply misunderstood what the course was about. Project leaders learned that they needed to constantly and consciously "market" the redesign to key campus constituencies who knew little about the new course and how it differed from more traditional offerings. By the point of full implementation, these problems had been largely overcome.

Training. About half of final participants reported challenges in training instructors, graduate teaching assistants and undergraduate peer tutors. As one participant observed, "We did not adequately plan for this and thought we could do it on the 'cheap'…we have now changed

course and will conduct our first paid training session for part-time faculty tomorrow." Most participants reported similar up-front orientation sessions for all personnel in advance of the first course meeting as well as frequent updates throughout the term. By the point of full implementation, these problems had been addressed through greater structure and training.

Technology Infrastructure. Sixty percent of final participants reported encountering challenges in ensuring an adequate technological infrastructure. Most of these occurred during early implementation and concerned adequate staffing or late-arriving equipment. Only one of the 15 participants reported ongoing problems with technological infrastructure due to lack of support on the part of the CIO.

Faculty Consensus. About two thirds of participants reported challenges in the area of achieving faculty consensus within the department about the redesign. Some of this was attributed to leadership issues—for example, interim department chairs who were reluctant to press resisting faculty. Others stressed the need for strong leadership and administrative support to overcome these challenges. Some project leaders thought they had solved the problem of faculty buy-in at the outset, but were surprised to find that they had not communicated as effectively as they had thought. This underlines the importance of constant communication to check signals and maintain momentum. The fact that all of the final redesigns will be continued testifies to the fact that these challenges were eventually overcome.

Failing to achieve faculty consensus was the most important reason why five of the original 20 institutions did not complete their redesign projects. Team leaders thought they had their colleagues' support, but when the redesign got underway, they discovered that the opposition was stronger than anticipated.

Building Institutional Commitment. About half of the final participants reported progress in building institutional commitment to redesign outside their home department. Participants frequently cited leadership and administrative support as factors in sustaining and expanding interest in redesign. In one case, redesign is being encouraged by system-level leadership and another noted support by trustees as a factor. Like building acceptance within the department, however, broadening institutional commitment required continuing attention and support even under favorable circumstances.

R2R tools like the Five Critical Implementation Issues were designed to reduce implementation challenges, and many respondents emphasized that it was helpful to learn that others had encountered a particular problem and how they had overcome it. But sentiment was equally clear that many of these problems could not have been foreseen and that every campus may need to go through the experience of redesign on its own. As one participant put it, "I'm not sure you can change human nature…I can read the Implementation Issues, but I need to have the experience before I really understand the issue." Another noted, "I do not see a way to avoid implementation issues…it is more a matter of one set of problems versus another set."

Participants stressed that foresight was helpful, but that there were no simple answers to complex organizational challenges. As one of them noted, "I think the Implementation Issues aren't about the principles of course redesign as much as [they are about] the institutional context." Providing materials and shared experiences were helpful to R2R participants in knowing that particular implementation issues would be likely to arise and in assuring them that they could work through them. But they could not provide them with ready-made "solutions." Asked to sum up the implementation process as a whole, one participant emphasized, "It just takes hard work and time."

Although R2R participants valued examples, advice and interaction with experienced practitioners, they accomplished a great deal of the real work of redesign on their own. Based on their experience with the PCR, this was foreseen by NCAT staff. The NCAT course redesign methodology is not a silver bullet that can be quickly put in place on any campus. Even though most institutions thought they knew what they were getting into, they learned by experience how challenging it was to implement their plans.

Building on What We've Learned

R2R has provided a number of important lessons to inform next steps in large-scale course redesign—lessons that are already being incorporated into NCAT's ongoing work. Among the most prominent lessons learned were the following:

1. It is feasible to undertake a successful course redesign without a substantial infusion of external resources.

Testing this proposition, of course, was the fundamental premise of R2R: to determine if institutions could successfully complete redesigns without the $200,000 per-course allocation of grant funds provided by the PCR. This proposition was clearly sustained as 14 of 20 projects chosen to participate in the project did complete a successful redesign using their own funds (with one more still in process). Interestingly, those that persevered frequently used the *language* of external "grant" support when referring to the project on and off-campus, despite the fact that the "grant resources" provided were in the form of tools, convening, and consulting instead of money.

2. It is possible to streamline redesign to achieve more rapid implementation and adoption as long as one "follows the underlying rules."

R2R also sought to demonstrate that proven redesign models and implementation approaches could enable shortened timelines. R2R's timeline was based on a faster cycle. In contrast to the PCR, the planning period

was reduced from nine months to two months and the implementation period was reduced from two years to 15 months. Again, this proof of concept was fully demonstrated by the 14 redesigns that were completed within the project timeline. Above all, success required course teams to "follow the underlying rules" of the project with respect to proven redesign approaches and readily-available tools and resources.

3. Strong local leadership is critical to staying the course.

Success in course redesign requires strong local project leadership—either at the department or at a higher administrative level. There was no one model of successful leadership in R2R. Some redesigns were managed collegially, others depended upon a core group of tenacious faculty, and still others were implemented in a "top-down" fashion by administration. Functions of top leadership mentioned especially were the willingness to stand up publicly on many occasions to talk about the project and its benefits and backing up the project team when they ran into trouble by providing resources or fixing administrative problems. But above all, local leaders had to ensure that the team stuck to the basic redesign plan.

The Importance of Collaboration

R2R participants valued collaborative work throughout the project. Those attending the initial workshop overwhelmingly felt that the opportunity to see real examples and interact with PCR "veterans," as well as with project staff, were most valuable. Subsequent workshops were also highly praised for the interaction that took place. Such interaction not only disseminated ideas and techniques, but also built solidarity and mutual support through the knowledge that others were encountering (and overcoming) similar obstacles on their own campuses.

Participants also valued collaboration within their own campus teams. The R2R redesign methodology emphasized the use of a team to implement the project, and all 15 institutional respondents to the final project survey indicated that they had taken such an approach. Eight of 15 gave the team approach the highest available rating, and all but one rated the team approach in the top two response categories.

Yet the formally-established Academic Practices—the most formal collaborative feature of the R2R design—did not work as expected. Course teams instead tended to seek advice directly from NCAT staff rather than from the Academic Practices despite their initial enthusiasm for the Practice concept. Partly this may have been because doing so was easier and more comfortable, and it did give them the information they needed quickly and effectively.

Many course teams preferred to "figure out things for themselves," without consulting experienced partners, even though this sometimes meant "reinventing the wheel." This happened repeatedly in the PCR as well. Going through the process of arriving at solutions to commonly-encountered problems—though not always efficient—may be necessary to achieving progress. Implementing solutions to problems on one's own terms may help build longer-lasting commitment among those involved.

R2R demonstrates that some kind of collaborative structure is beneficial to sustain multi-institutional approaches to redesign, but that the precise form (or forms) that it should take has not yet been found. This suggests a flexible approach for future efforts that combines face-to-face gatherings with on-demand mechanisms for exchange and collaboration electronically as well as a clear requirement for a larger pool of advisers, perhaps made available in a less formal and more flexible fashion than the Academic Practices.

Please see the descriptions of the Redesign Alliance, the Redesign Scholars program and the Colleagues Committed to Redesign (C^2R) program that follow below which will build on what we have learned in R2R.

--Carol A. Twigg

This article draws heavily from our final FIPSE grant evaluation conducted by Peter Ewell as well as our own interpretation of what happened.

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2. WHAT'S NEW

Featuring updates and announcements from the Center

Do You Need a Scorecard? New Initiatives at NCAT

Since the pace of expansion of new NCAT programs has accelerated over the last several months, we thought it might be useful to give you an overview of the new initiatives. NCAT's goal is to spread the ideas and practices of course redesign throughout higher education. Each of these initiatives is designed to expand higher education's capacity to initiate and complete course redesign programs. NCAT's primary emphasis is on two initiatives: 1) creating state- and system-based course redesign programs, and 2) creating opportunities for individual institutions to become involved in course redesign.

Why create **State- and System-wide Course Redesign Programs**? The idea is simple: we want to replicate the programs that we have conducted on a national level at a state or system level. After piloting course redesign programs in South Dakota, Hawaii, Ohio and Minnesota, we have launched full programs in partnership with the University System of Maryland, the Arizona Board of Regents and the Tennessee Board of Regents. Each of these three-year initiatives encompasses the entire system and is tailored to meet the special needs and objectives of the system. These relationships are focused on building the capacity of the system and offering system institutions an in-depth, structured experience with NCAT staff and the complete redesign

methodology developed in the [Program in Course Redesign](#) and the [Roadmap to Redesign](#). For more information these programs, see http://www.thencat.org/system_solutions.htm.

But what if your system or state is not engaged with NCAT? How can your institution participate? That's why we've created our new organization, [The Redesign Alliance](#). Our goal is to create a community of those who are experienced in course redesign and those who would like to learn more about redesign. Membership is open to institutions of higher education, companies with an interest in higher education and other higher education organizations. Participating in the Alliance is a way to become engaged in course redesign if you are not part of one of NCAT's formal state or system programs. Under the auspices of the Redesign Alliance and with partial support from the Fund for the Improvement of Post-Secondary Education (FIPSE), we have created two additional new programs, [Colleagues Committed to Redesign](#) (C^2R) and the [Redesign Scholars](#). These programs are designed to offer individual institutions the opportunity to work with NCAT as they that seek to initiate redesign efforts on their campuses. Twenty Redesign Scholars have been selected, and 20 new institutions have been chosen to participate in C^2R. C^2R is open to all US institutions of higher education. Please see http://www.thencat.org/RA.htm for more information about the Alliance, the Redesign Scholars program or C^2R.

NCAT Welcomes Kay Katzer as C^2R Project Coordinator

On December 1, 2006, Kay Katzer joined NCAT as the Project Coordinator for our new program, Colleagues Committed to Redesign (C^2R) . Kay serves as the liaison among NCAT staff, the Redesign Scholars and 60 participating institutions. From 1972 to 2001, she held a number of administrative positions at SUNY Empire State College including Director of Admissions, Executive Associate to the President and Assistant Vice President for Operations. Now retired from Empire State College, she currently offers consulting services in project planning and management, human resources and distributed services. Kay will also provide assistance in our state- and system-based programs. We are extremely pleased to have Kay on board! She can be contacted at kkatzer@theNCAT.org.

NCAT Web Site has been Reorganized

Over the last several months, we have reorganized the NCAT web site to make it easier to use and to merge the course redesign descriptions from programs that have been completed. We have included project descriptions from the [Program in Course Redesign](#), the [Roadmap to Redesign](#) as well as from the pilot [system initiatives](#) in Hawaii, Ohio and Minnesota. It is now possible to search all of the completed course redesigns by academic discipline <http://www.thencat.org/PCR/Proj_Discipline_all.html>, by redesign model <http://www.thencat.org/PCR/Proj_Model_all.htm> and by our assessment of the project's success <http://www.thencat.org/PCR/Proj_Success_all.html>. We will add project descriptions from each of our state- and system-based programs and from (C^2R) as we move forward. Please visit the reorganized NCAT web site and let us know if you have questions.

Louisiana State University Post-Katrina

We are often asked about whether our redesign projects continue to progress. In the October 2005 issue of *The Learning MarketSpace*, we reported that Louisiana State University (LSU) had to "loan" their math lab to the university for 12 days following Hurricane Katrina in order to register the 3721 displaced students that LSU admitted from New Orleans universities. Due to this and other disruptions, the drop rate for College Algebra for the fall 2005 term was 29%. The math lab is now fully operational, and in fall 2006 the drop rate was only 6%, a spectacular improvement. The student success rate (a grade of C or better) was 75%, and the final exam median was 78%. Courses offered in the math lab continue to grow; precalculus was piloted in fall 2006 and trigonometry is being piloted in spring 2007. The lab itself has expanded to accommodate these new courses. LSU is also working to move the redesign model to seven high schools. For more information about this highly successful project, contact Phoebe Rouse at prouse@lsu.edu.

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3. CENTER CHRONICLES

Featuring initiatives to scale course redesign through state- and system-wide redesign programs

Arizona to Partner with NCAT in Redesign Initiative

The Arizona Board of Regents (ABOR) has established a major course redesign initiative, in partnership with NCAT, for its member institutions (**Arizona S tate University, Northern Arizona University** and the **University of Arizona**) which together enroll nearly 120,000 undergraduate students. The initiative, called the Learner-Centered Education Course Redesign Initiative, will build on a prior Learner-Centered Education grant program that provided grants to faculty to improve and expand learner-centered education throughout the university system. The LCE Course Redesign Initiative takes the Regents' interest in learner-centered education to a new level and will build on the successful models and lessons learned from NCAT's Program in Course Redesign and Roadmap to Redesign. The ABOR will provide institutional grants of up to 15 grants of up to $100,000 each to university-initiated redesign projects during the first round of this initiative. NCAT will conduct workshops to provide an orientation to redesign and to explain the program to all interested faculty, administrators and staff on individual campuses on February 20 and 21, 2007. Following the first workshop, institutions will form redesign teams and respond to a set of readiness criteria as well as complete a series of homework assignments prior to a second workshop, which will be held on April 25, 2007 in the Phoenix area.

For more information about the ABOR program see http://www.thencat.org/States/ABOR.htm or contact Maryn Boess at Maryn.Boess@asu.edu.

Tennessee Board of Regents Begins Developmental Studies Redesign Initiative

With support from the Fund for the Improvement of Postsecondary Education (FIPSE), the Tennessee Board of Regents (TBR) has established a new system-wide initiative to redesign its developmental math and English curriculum using technology-supported active-learning strategies in collaboration with NCAT. The goal is to achieve improvements in learning outcomes as well as reductions in instructional costs. On December 13, 2006, Carol Twigg met with the Chief Academic Officers from the 19 TBR institutions and the Developmental Studies Redesign Steering Committee to generate interest in the initiative, which will award a total of $240,000 in grants to participating TBR institutions to support their redesign efforts. A statewide orientation workshop will be held on February 2, 2007, at Austin Peay State University, with an anticipated attendance of 250 faculty, administrators and staff.

During the course of the project, the TBR will work with an internal task force to 1) collect and review data about the current state of its remedial and developmental curriculum, with an emphasis on ascertaining levels of student success and costs for both institutions and students; 2) align curricular expectations from early high school through the first-year college-level course in math and English, with an emphasis on placement and outcomes; and 3) develop content expectations for modularizing this curriculum such that students can be assessed and placed appropriately depending on their level of achievement with the goal of streamlining the ways in which diverse students move through that curriculum. For more information about the TBR effort, see http://www.thencat.org/States/TBR.htm or contact Treva Berryman at Treva.Berryman@tbr.edu or Houston Davis at Houston.Davis@tbr.edu.

University System of Maryland Redesign Initiative Moves Forward

The University System of Maryland (USM) is partnering with NCAT to develop at least one successful redesign project at each of the system's 11 institutions. More than 100 faculty members, professional staff and administrators, including representatives from all 11 institutions, participated in an orientation workshop on October 17, 2006 in Baltimore, MD. In December, 2006, all 11 institutions submitted responses to a set of readiness criteria. The total number of courses under consideration is 20 since several institutions are still in the process of selecting which course they will ultimately redesign. A second workshop was held in Baltimore on January 23, 2007, with about 85 people participating. Participants described their redesign plans to one another to get feedback on their ideas and discussed various options to increase student engagement with both the content of the course and with other students. The next step is for teams to develop full plans for the course they have selected to redesign; plans are due on April 20, 2007. To learn more about the USM initiative, see http://www.usmd.edu/usm/academicaffairs/courseredesign/ or contact Nancy Shapiro at nshapiro@usmd.edu or Don Spicer at dspicer@usmd.edu.

NASH, The Education Trust and NCAT Launch the Mathematics Success Project

The National Association of System Heads (NASH) and the Education Trust are co-sponsoring a new initiative in partnership with NCAT designed to assist university systems and individual campuses in analyzing student success in entry level/high volume courses. Ron Henry, Provost at Georgia State University and an NCAT Redesign Scholar, will be serving as a consultant on this initiative. Titled the Mathematics Success Project, this effort will focus primarily on collecting and analyzing student performance data in entry-level mathematics courses. The goal is to use this project to help institutions focus their efforts on student success, retention and degree completion. Key issues under consideration are 1) analyzing system-level data pertaining to student success in entry-level mathematics courses; 2) identifying critical data that institutions should collect to appropriately examine, monitor and track student progress in entry-level mathematics courses; 3) identifying and examining institutional strategies and best practices that contribute to, or hinder, student success in these courses; and 4) creating tools and templates that other systems and colleges/universities can use to analyze their own data and facilitate student success in first-year math courses. To learn more about the Math Success Project and other NASH or Education Trust initiatives, contact Jan Somerville at jsomerville@edtrust.org.

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4. THE REDESIGN ALLIANCE

Featuring updates from the Alliance, a member organization of institutions, organizations and companies committed to and experienced with large-scale course redesign.

Fourteen New Members Join the Redesign Alliance

The Redesign Alliance welcomes 14 new members to the community of institutions and organizations seeking to increase student learning while controlling instructional costs. Joining the 42 founding members of the Alliance are **California State University-East Bay, DePaul University, Houston Community College, Indiana State University, Miami University, Minnesota State Colleges and Universities, Northern Virginia Community College, Radford University, Santa Fe Community College, State University of New York at Oswego, Texas Higher Education Coordinating Board, University of Calgary, University of Wisconsin-Milwaukee**, and **Winona State University**. We look forward to working with these new members and meeting them at the 2007 Conference in Orlando. To learn about Alliance membership, see http://www.thencat.org/RA.htm or contact Carolyn Jarmon at cjarmon@theNCAT.org.

The Redesign Alliance First Annual Conference to be held March 18 – 20, 2007

The Redesign Alliance First Annual Conference is scheduled for March 18-20, 2007 at the Rosen Centre Hotel in Orlando, FL. A pre-conference orientation session at 4 pm on Sunday, March 18 will provide an opportunity for those new to course redesign to learn how best to take advantage of the conference program.

The conference will begin on Monday morning with a keynote address by Carol Twigg entitled, "State-of-the-Art Course Redesign: What We've Achieved and Where We Need To Go." Following this assessment, attendees will be able to participate in one of four disciplinary showcases and discussion sessions in the academic areas of humanities, natural sciences, social sciences and the quantitative fields, led by the Redesign Scholars. These sessions will provide an opportunity for attendees to discuss specific issues and challenges related to their particular academic areas.

On Monday afternoon, concurrent sessions will focus on Eight Great Ideas for Successful Course Redesign. Those experienced in redesign will discuss how they implemented these ideas and what is needed in order to do so successfully. Each session will be offered twice so that participants can attend more than one. Monday's program will conclude with a plenary panel, Building An Assessment Culture. Panelists will discuss the current emphasis on assessment coming from policy makers, accreditation associations, the Spellings Commission, and where assessment of student learning in redesigned courses fits in the big picture. A reception will follow that will offer plenty of time for informal discussions.

Tuesday morning will include eight concurrent sessions focused on Hot Topics in Course Redesign. These topics were identified by the Founding Members of the Redesign Alliance as those they were most interested in discussing such as How To Get Started, Getting Faculty on Board and Responding to High Enrollment Demand. Each session will be kicked off by those who have experienced success in relation to the topic and will emphasize discussion among the participants. These Hot Topics sessions will be offered twice so that attendees can attend more than one.

One of the Hot Topic sessions will provide an opportunity for those who have ideas about initiating a course redesign at their home campuses to receive feedback on those ideas. At this Feedback Forum, Redesign Scholars will be on hand to provide guidance and ideas to the teams that attend. **Attendees must register specifically for the Feedback Forum when they register for the conference.**

The conference will conclude with a plenary panel, Change Strategies: Moving Beyond the First Redesign. Course redesign that improves learning while reducing costs has tremendous promise for making substantial change in the ways that all of us in higher education teach and learn. But one course is just a good start. How do we sustain what we've started? How do we scale what we learn in one course redesign beyond that one course? How do we have an impact on other courses within the department? On other departments? On the entire institution? The panelists will address moving from one course to the entire department, moving from one department to the entire institution, and moving from one institution to a higher education system.

Hotel reservation deadline is February 16, 2007.
Conference registration deadline is March 2, 2007.

To learn more about the conference and to register, see
http://www.thencat.org/RedesignAlliance/Conference.htm.

Redesign Alliance Advisory Board Appointed

We are pleased to announce the appointment of the Redesign Alliance Advisory Board who will provide direction to the work of the Redesign Alliance in consultation with the members and advice to the NCAT staff. The 13 members were selected from among the Alliance Founding Members and include representatives from two-year and four-year institutions, state systems and the private sector. The Advisory Board members are: Jon Alexiou, **Educational Testing Service**; Irv Goldstein, **University System of Maryland**; Bill Graves, **SunGard Higher Education**; Ben Hambelton, **Boise State University**; John Harwood, **Penn State University**; Robbie Melton, **Tennessee Board of Regents**; Karen Mills, **Rio Salado College**; Anne Moore, **Virginia Tech**; Linda Morris, **University of Idaho**; Pam Quinn, **Dallas County Community College District**; Randy Smith, **Ohio State University**; Phil Turner, **University of North Texas**; and Karen Wells, **Lorain County Community College**. The first meeting of the Advisory Board will occur in Orlando, FL on March 20, 2007, immediately following the Redesign Alliance First Annual Conference.

Twenty NCAT Redesign Scholars Selected

NCAT has recently established a Redesign Scholars Program. The Scholars will work with institutions selected to participate in NCAT's FIPSE-funded Colleagues Committed to Redesign (C^{2}R) program over the next three years. Twenty Redesign Scholars have been selected through a national competition based on their experience in course redesign that increases student learning while reducing instructional costs.

In the quantitative disciplines, the Scholars and their home institutions are: Joe Benson, **University of Alabama**; Tristan Denley, **University of Mississippi**; Chuck Hodges, **Virginia Tech**; Dennis Pearl, **Ohio State University**; Phoebe Rouse, **Louisiana State University**; and Kirk Trigsted, **University of Idaho**. In the natural sciences, the Scholars are Elizabeth Connor, **University of Massachusetts, Amherst**; Malcolm Hill, **University of Richmond**; Margaret Trim, **Central Ohio Technical College**; and Amiee Wagner, **Central Ohio Technical College**. Scholars selected in the humanities are Rob Sanders, **Portland State University**; Sally Search, **Tallahassee Community College** ; and Jim Wohlpart, **Florida Gulf Coast University**. In the social sciences, the Scholars are John Broida, **University of Southern Maine**; Gordon Hodge, **University of New Mexico**; Michelle Miller, **Northern Arizona University**; Mary Jane Pasky, **Lorain County Community College**; and Bill Williams, **Eastern Washington University**.

Two Scholars have special assignments. Candace Thille, director of the Open Learning Initiative at **Carnegie Mellon University**, will work with institutions that want to take advantage of CMU's extensive software resources in their redesigns. Ron Henry, Provost at **Georgia State University**, will work with system administrators to encourage the development of system-wide course redesign programs.

On January 23, 2007, an orientation workshop was held for the new Redesign Scholars in Baltimore , MD. Scholars learned more about their responsibilities and planned segments of the March 2007 Redesign Alliance Annual Conference and the April 27th C^2R disciplinary institutes.

After a fierce debate among Redesign Scholars about how to pronounce C^2R--with the mathematicians leaning toward C Square and the others leaning toward C-to-R--the consensus is . . . C-to-R!

We congratulate our new colleagues, and we look forward to working with you over the next three years.

For more information about the Redesign Scholars Program, including biographies of each Scholar, please see http://www.thencat.org/RedesignAlliance/ScholarsProgram.htm.

Congratulations to Institutions Selected to Participate in Round I of C^2R

The following institutions have been selected to participate in Round I of C^2R based on Redesign Scholars and NCAT staff review of responses to a set of Course Readiness Criteria:

Alamo Community Colleges, Developmental Math/College Algebra; **Boise State University**, English Composition; **California State University, Northridge,** Elementary Education; **Cosumnes River College**, Beginning Algebra; **DePaul University**, College Algebra; **Hagerstown Community College**, College Algebra; **Harry S Truman College**, College Algebra; **Houston Community College**, Intermediate Algebra; **Indiana State University**, General Psychology; **Indiana University of Pennsylvania;** Principles of Biology; **Lorain County Community College,** General, Organic and Biochemistry; **Northern Illinois University**, College Algebra; **Pulaski Technical College,** College Reading; **St. Cloud State University,** Preparatory Chemistry; **Truman State University**, British Literature; **University of North Carolina at Chapel Hill**, Introductory Spanish; **University of West Florida**, Elements of Statistics; **Valencia Community College**, Human Anatomy and Physiology; **Winston-Salem State University**, Introductory Biology

Next steps for C^2R participating institutions include selecting a four-person redesign team that will participate in a disciplinary institute (all four will be held simultaneously on April 27, 2007, in Austin, TX), collecting baseline data on student learning and instructional costs, and completing selected reading on course redesign and a series of homework assignments in preparation for the institutes. Following the institutes, NCAT will support collaboration and consultation among NCAT staff, Redesign Scholars and institutional teams to help teams apply what was learned at the institutes on campus and replicate prior successes and to prepare plans for piloting their redesigns.

If you missed the deadline for Round I, you have lots of time to prepare to apply for Round II. Please see http://www.thencat.org/RedesignAlliance/DissemProgram.htm for more information or contact Kay Katzer, C^2R Project Coordinator, at kkatzer@theNCAT.org.

5. CORPORATE CONNECTIONS

Linking content and software providers with leading edge institutions

Houghton Mifflin Links Course Redesign to its Goals and Customers

Several course redesign events were sponsored by the college division of Houghton Mifflin during fall 2006. In October the division hosted its first course redesign workshop for Spanish instructors in Scottsdale, Arizona. Ten college professors attended the workshop, which included presentations by NCAT's Carolyn Jarmon; Mary McGibbons, Manager of Media Integration for Houghton Mifflin; and LeeAnn Stone, World Language Specialist for Houghton Mifflin. After Carolyn provided an overview of course redesign, LeeAnn demonstrated the features of the Nexos Media Edition introductory Spanish interactive ebook, which includes video clips, flashcard activities, pair and group oral activities, listening and writing activities, games, self-quiz questions, web search activities, pronunciation of vocabulary words, SMARTHINKING online tutoring, and WIMBA chat, all within its own course management system. Because students and faculty see the exact same book-like interface online as they do in the printed textbook, the Nexos Media Edition works perfectly for instructors who wish to use the same text for a traditional class, an online class, and a hybrid class. Mary outlined the support services available to departments who wish to use Nexos Media Edition in a course redesign, which include faculty training, media integration guidance, and customized course content.

In November Carolyn traveled to the home of the Media Integration Group of Houghton Mifflin in St. Charles, Illinois to conduct a training session for Media Integration specialists and Inside Sales representatives. Carolyn's talk formed the basis of much discussion about how to help faculty use technology to solve faculty and student problems. Carolyn also traveled to Middlesex County College in Edison, New Jersey, to meet with high school and college mathematics instructors as well as administrators. They discussed how course redesign can help solve problems of low student retention and lack of classroom space. For more information about using Houghton Mifflin content to implement a course redesign, please contact Debby Seme, Manager of Strategic Initiatives at Deborah_Seme@hmco.com.

Pearson Education and Quinsigamond Community College Co-Sponsor Math Conference

Pearson Education and Quinsigamond Community College are proud to co-sponsor this year's International Conference on Technology in Collegiate Mathematics (ICTCM) at the Westin Copley Hotel, Boston , MA on February 15-18, 2007 . ICTCM is for anyone interested in or already using technology to teach mathematics. Helpful hands-on workshops will be offered for beginners as well as for those who are experienced in using technology. There will be sessions on getting started, teaching with technology in the classroom, and using technology to enhance instructors' lives beyond the classroom. Among the wide variety of presentations will be one providing an overview of course redesign to increase student success by Carolyn Jarmon and others describing successful course redesign projects at **Georgia State University**, **Louisiana State University**, the **University of Alabama** and the **University of Idaho**. For more information, to register or to view the program, go to www.ictcm.org.

Benefits of Becoming an NCAT Corporate Associate

How can becoming an NCAT Corporate Associate benefit your company? Each of NCAT's Corporate Associates has the opportunity to customize their relationship to the needs and goals of their company. Some Corporate Associates have partnered with NCAT to offer public seminars and meetings. Others have organized invitational events that link the company's goals with the redesign knowledge of NCAT staff. Still others have included NCAT staff in executive retreats or meetings with corporate groups for daylong interaction. These kinds of events help employees understand the power of course redesign and gain an understanding of leading-edge uses of software and other learning resources. All Corporate Associates are invited to participate in NCAT events such as the workshops that were part of the Roadmap to Redesign program and the Disciplinary Institutes that will be part of the Colleagues Committed to Redesign program. The goal of NCAT's Corporate Associates Program is to forge closer ties between the content and technology sectors and those in the education community engaged in cutting-edge redesign projects. Our shared vision is that this program will lead to a greater awareness about what has already been developed and what needs to be developed to better serve students. If you are interested in becoming a Corporate Associate, please contact Carolyn Jarmon at cjarmon@theNCAT.org.

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6. COMMON GROUND

Reporting on initiatives that share the Center's goals and objectives

Redesign of Psychology at Northern Arizona University

One of NCAT's new Redesign Scholars, Michelle Miller, has redesigned Introduction to Psychology at Northern Arizona University (NAU), which enrolls about 1500 students per year. Like many introductory psychology courses across the US , the course was plagued by large classes dominated by the lecture method and inconsistency among sections since many were taught by adjuncts. Miller raised the average course numeric grade from 78.72% in the traditional course to 81.3% in the redesign , a statistically significant improvement. The redesign team at NAU incorporated low-stakes quizzing as well as online discussion to increase the engagement of students. In fall 2006, section size was increased from 175 to 200 and two sections were combined in a team-teaching arrangement. To maintain quality in these large sections, NAU implemented a new coordinator role and introduced online course experiences. Redesign efforts also resulted in cost savings. Creating a large, team-taught pair of sections freed up sufficient resources to offer a small (25-person) honors section of the course taught by a permanent faculty member. In addition, the department can meet growing demand for the course on the same resource base. To learn more, contact Michelle Miller at Michelle.Miller@NAU.edu.

University of Southern Mississippi Models Redesign of College Algebra on NCAT Institutions

With a five-year average drop-failure-withdrawal rate of 60% in College Algebra as well as significant retention issues likely related to this course, the University of Southern Mississippi (USM) has decided that redesign is needed. After following the experiences of the University of Idaho , the University of Alabama , and Virginia Tech, USM has embarked on a redesign using the emporium model and *MyMathLab*. The first 600 students will be part of a pilot redesign of College Algebra in spring 2007. Equipped with 60 computers, the lab will be open 50-60 hours a week and staffed by faculty and graduate students from multiple fields with a strong math component such as physics. The math department is seeking additional space for a larger lab and eventually expects to teach all students in this course using the redesign model. For more information, contact Rex Gandy at Rex.Gandy@usm.edu.

Engineering Redesign at the University of Wisconsin-Madison Features Open Source Software

Although the NCAT redesigns have focused primarily on introductory courses, the successful techniques used in them will work well in other courses as evidenced by the highly successful redesign of a sophomore engineering course at the University of Wisconsin-Madison entitled Engineering Problem-Solving modeled on Virginia Tech's Math Emporium. The redesign team has developed highly transportable software that is now used in other campus courses outside the Engineering College. Learning results show a one sigma improvement in average scores on exams. Students are spending more time on task and learning more about what engineering will actually be like once they are professionals. Students are now watching lectures on their own time and working with faculty in the lab--actively engaged in problem-solving in small groups--rather than listening to lectures in class and doing their homework alone. Both software packages created for the course, *CourseBuilder* and *eTEACH*, are available from UW-Madison as open source products. To learn more, contact Greg Moses at moses@engr.wisc.edu.

Tapscott and Williams Collaborate on *Wikinomics: How Mass Collaboration Changes Everything?*

Recently published by Portfolio, Donald Tapscott and Anthony Williams have captured the nature of change in their newly published book *Wikinomics: How Mass Collaboration Changes Everything?*, which explores the changing nature of competitiveness and the resulting impact on firms of the future. Focused on the many facets of collaboration and their impact on the creation of value for a firm, this book is receiving positive comment from senior managers of major U.S. corporations as well as from university faculty. To learn more about this new perspective, see www.wikinomics.com.

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7. SUBSCRIPTIONS, SUBMISSIONS, ARCHIVES, REPOSTING

The National Center for Academic Transformation serves as a source of expertise and support for those in higher education who wish to take advantage of the capabilities of information technology to transform their academic practices.

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