



Experts in improving learning and  
reducing cost in higher education.

## The Learning MarketSpace, July 2005

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

*Perspectives on issues and developments at the nexus of higher education and information technology.*

#### **Increasing Success Among Underserved Students**

Many students who begin postsecondary education drop out before completing a degree. An estimated 60 percent of students at public institutions fail to complete degrees within five years, and half of these students leave during the freshman year. As shown by research by the [Policy Center on the First Year of College](#) at Brevard College in North Carolina and others, the first year of college is the most critical to a college student's success and to degree completion. According to the National Center for Education Statistics (NCES), almost half of first-time students who leave their initial institutions by the end of the first year do not return to higher education.

Graduation rates among African-American, Hispanic, Native American, and low-income students are lower than the overall numbers. NCES data indicate that one-quarter of freshmen are from low-income backgrounds, almost one-third are nonwhite, and 40 percent are the first in their families to attend college. Such students—often not as academically or socially prepared as others for higher education—are more prone to drop out.

Indeed, 45 percent of African-American students and 39 percent of Hispanic students, on average, leave four-year institutions within six years without earning degrees, compared with 33 percent of white students and 26 percent of Asian-American students. Similar gaps exist by income: students from lower-income backgrounds are significantly less likely than students from higher-income backgrounds to go on to earn bachelor's degrees.

Supported by a grant from [Lumina Foundation for Education](#), NCAT recently concluded an in-depth study to determine how redesigning introductory courses can contribute to the success of traditionally underserved students (students of color, low-income students and adult students.) The focus of the study was a sub-set of 15 institutions with high percentages of the target student populations that participated in the Program in Course Redesign (PCR.) All 15 institutions increased student success and retention, while simultaneously reducing instructional costs.

Among the questions we sought to answer were: What pedagogical techniques were most effective in improving learning and in increasing success for all students and for underserved groups in particular? Did a particular strategy work better with African-American students, for example, than with the class in general? Data analysis and interviews with institutional representatives were unanimous: good pedagogy worked equally well with all student groups. As one project leader summed it up, all boats rose. The most-prominent techniques used by the 15 institutions—indeed, for all 30 in the PCR—were those previously reported in this newsletter.

For those who want to increase the success levels of underserved students, the good news is that these 15 institutions increased learning and retention among the target student populations. The bad news is that while “all boats rose,” the achievement gap among some groups of students remained. If, for example, the grades of African-American students were lower than those of white students before the redesign, that gap continued after the redesign. This phenomenon generally occurred across all projects, with the exception of the University of Alabama .

It is important to remember that these redesigns were aimed at all students in the course in general rather than at underserved students in particular. What lessons can be drawn from the redesign projects about closing the achievement gap? We know that student behavior in the course not only matters but also can eliminate differences among groups. At IUPUI, for example, nonwhite students had lower grades than white students on biweekly quizzes and papers. However, when participation in online forums, as measured by the number of log-ins and forum grades, was considered, there was no difference. Thus, participation in forums was especially important in eliminating minority-status disparities. Both the number of log-ins and the forum grade were positively associated with having a better grade in the course overall.

Clearly, a key to increasing student success is to increase the amount of time students spend studying for the course. Faculty and students alike involved in the redesign projects recognize the importance of time on task and acknowledge that students are spending more time on task in the redesigned courses when compared with traditional formats. At the University of Southern Maine, where 37 percent of the students are older than the age of 25 years and 50 percent are low income, students in redesigned sections reported spending more time studying for Introductory Psychology than they did for other introductory classes and for traditionally taught sections (typically three to five hours per week in contrast to one to three hours.) This difference was highly significant (.001 level).

Working adult students at Rio Salado College said that they generally found the redesigned environment more demanding than the traditional face-to-face format. They believe they worked harder than they would have if they had been taking the course in a classroom, but they also believe they were more engaged with the subject matter and, consequently, learning more. These observations were echoed by Tallahassee Community College (TCC) students who said, while it does seem to take more effort to learn in the redesigned format, there is no reason to fail if one tries and does the work. At TCC, 41 percent of the students are low income and 34 percent of the freshmen are African-American.

We know that spending adequate time engaged in study closes the achievement gap. At The University of Alabama, making sure that students spent sufficient time on task was a high priority. The combination of required participation in a math learning center, where students received help on demand; required weekly class meetings; and an early intervention system that identified students who were having difficulty led to increased levels of student success. In fact, the success rate (grades of C– or better) for African-American freshmen was substantially higher than for white freshmen. In fall 2000, 71.4 percent of African-American freshmen were successful versus 51.8 percent of white freshmen; in fall 2001, it was 70 percent versus 65.3 percent. At the same time, placement scores indicated that African-American freshmen were less prepared when they entered the course.

Like Alabama , many of the projects required participation or attendance. While adding greater flexibility in the times and places of student engagement with the course, the redesign projects were not self-paced. Rather than depending on class meetings, the redesigns ensured student pacing and progress by requiring students to master specific learning objectives according to scheduled milestones. All projects discovered that students need structure—especially first-year students and especially in disciplines that may be required rather than chosen—and that most students simply will not make it in a totally self-paced format. Students need a concrete learning plan with specific mastery components and milestones of achievement, especially in more-flexible learning environments.

While effective with many students, one problem with requiring participation is that some students simply ignore the requirement. Another way to engage students in spending time on task is to create student learning teams within the larger course structure. Florida Gulf Coast University , for example, placed students into cohort groups of 60 and, within these groups, into peer learning teams of six students each. Students reported that they felt like they are “in a class of six.” Similarly at IUPUI, students reported that online learning teams “made

the course seem smaller.” Participation in learning teams and associated online homework assignments contributed significantly to higher levels of student engagement in the class and in the course material and, as described earlier, reduced the achievement gap between nonwhites and whites.

At Fairfield University, the use of computer-based exercises during class meetings forced students to work in teams of two or three. Previously, Hispanic students had not integrated well with others in the class. Because the redesign forced students to work together, Hispanic students seemed to be opening up—meeting more students and widening their study partners, developing more connections, more friends, and more contacts in their major. TCC English composition students liked the opportunity to work online and to work with others in the class. They indicated that sending their writing via e-mail in a small group did not seem as public as talking in a larger class. Being able to discuss their writing with others helped increase their confidence as well as their actual ability to write well.

Although there is plenty of literature showing that collaborative learning can be very effective, it does not follow that students will engage in the practice automatically. A few will, but many students need prodding to overcome their ingrained habits to study alone—perhaps because they fear to display their lack of understanding to their classmates. To ensure that members of learning teams actually work together, the University of Colorado -- Boulder attributed 40 percent of a student's course grade to the team's performance. Thus, every student on a team had an incentive to help every other student prepare good written and oral answers to discussion questions and to complete collaborative homework projects. Since the students within a learning team knew each other personally, they could and did exert powerful peer pressure to perform.

Our experience in the PCR has promising implications for institutions seeking to increase success among underserved students. Most efforts to increase student success and retention heretofore have been “add-ons” to existing programs, focused on institutional factors rather than what happens in specific courses. Yet success in first-year courses is critical to overall student success. As Tom Bailey and Mariana Alfonso have commented in [Paths to Persistence: An Analysis of Research on Program Effectiveness at Community Colleges](#), “No program, however well designed, can work in isolation. An excellent developmental or counseling program in a college with generally ineffective teaching may ultimately have no effect on student completion rates.” NCAT's focus on what goes on *within* courses dovetails nicely with cross-course or extracurricular attempts to integrate underserved students in the social and intellectual life of institutions.

A PDF version of the NCAT monograph, *Increasing Success for Underserved Students: Redesigning Introductory Courses*, which fully describes the study, is available at <http://www.thencat.org/Monographs/IncSuccess.htm>.

--Carol A. Twigg

In the October 2005 issue of *The Learning MarketSpace*, we will discuss the issue of technology access and use among underserved students.

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## 2. WHAT'S NEW

*Featuring updates and announcements from the Center.*

### **New Newsletter Format**

This is the first issue of the *The Learning MarketSpace* in its new format. While you will still receive the same great content, this format takes advantage of our new newsletter software, Constant Contact. If this newsletter was redirected to your spam or bulk mail folder, please change your email filter settings accordingly to be able to receive mail from the Constant Contact service. The email will still come from Carol Twigg, but make sure that you are able to receive it directly in your "In" box by adding [ctwigg@theNCAT.org](mailto:ctwigg@theNCAT.org) to your address book. Please contact Pat Bartscherer at [pbartscherer@theNCAT.org](mailto:pbartscherer@theNCAT.org) if you have any questions.

### **New NCAT Monograph: Increasing Success for Underserved Students**

NCAT has published a new monograph, *Increasing Success for Underserved Students: Redesigning Introductory Courses*, supported by [Lumina Foundation for Education](#). The monograph is the result of an examination of how redesigning introductory courses can contribute to the success of traditionally underserved students (students of color, low-income students and adult students.) The findings presented in the monograph are the result of NCAT's analysis of a sub-set of 15 institutions with high percentages of the target student populations that participated in the Program in Course Redesign (PCR). All 15 institutions increased student success and retention, while simultaneously reducing instructional costs. A PDF version of the monograph is available at <http://www.thencat.org/Monographs/IncSuccess.htm>.

### **Policy Alert on Course Redesign Issued by the National Center for Public Policy and Higher Education**

In June 2005, the National Center for Public Policy and Higher Education issued a Policy Alert offering “persuasive data that show how course redesign using information technology can reduce cost and increase student learning” written by Carol Twigg. Policy Alert is a publication series that summarizes important policy findings affecting the future of higher education. This Policy Alert was distributed to more than 9,000 legislators, governors' offices and other policy makers. Established in 1998, the National Center for Public Policy and Higher Education is an independent, nonprofit, nonpartisan organization that promotes public policies that enhance Americans' opportunities to pursue and achieve high-quality higher education. A PDF version is available at [http://www.highereducation.org/reports/pa\\_core/core.pdf](http://www.highereducation.org/reports/pa_core/core.pdf).

## Twigg Paper Selected as Part of Lumina Initiative on College Affordability

Lumina Foundation for Education has launched an initiative to create a national dialogue on the rising cost of college, an issue that threatens to close the doors of college opportunity to thousands of prospective students across America. As part of the initiative, Lumina issued a "Call for Solutions," asking informed observers for constructive, cost-effective solutions based on evidence and experience. A seven-member panel of national experts identified eight papers that will be published, one of which is Carol Twigg's paper, *Improving Quality and Reducing Costs: The Case for Redesign*. This series of papers is designed to increase the national dialogue on this crucial topic and will focus on innovative policy solutions that will provide a range of options for policy makers. This policy paper will be available as part of a collection of essays to be published by Lumina prior to or in conjunction with the College Cost Summit in Washington, DC on November 2, 2005. For more information about this initiative, see [http://www.luminafoundation.org/newsroom/news\\_releases/081304.html](http://www.luminafoundation.org/newsroom/news_releases/081304.html).

### Reminder: Bookmark the New NCAT Web Site

Remember to visit our new site to see the new look and to bookmark the new URL <[www.theNCAT.org](http://www.theNCAT.org)>. Our old site <[www.center.rpi.edu](http://www.center.rpi.edu)> will operate through January 1, 2006, but please start to use the new one immediately and update your links. All of the valuable information from the old site is still available in a new, easily accessible format for your continued use. We welcome your [feedback!](#)

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## 3. CENTER CHRONICLES

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

### Redesign Projects in Hawaii and Ohio on Track

Twelve redesign teams from UH (3) and OLN (9) are preparing for their course pilots or, in some cases, already piloting their redesigns. The three redesign teams supported by the University of Hawaii System (UH) are working this summer in preparation for piloting their redesigns in psychology, information science and ethnobotany in the fall 2005 term. UH teams will meet with NCAT and UH staff in January 2006 to discuss their pilot experiences prior to full implementation of their redesigns in the 2006 spring term. With support from the Ohio Learning Network (OLN), nine teams at institutions across the state of Ohio are either completing course development or piloting their redesigns this summer. A workshop for the nine Ohio teams will be conducted by OLN and NCAT staff on September 15, 2005 in Columbus to review the teams' progress to date. Abstracts of the redesign projects in Hawaii and Ohio are available at [http://www.thencat.org/system\\_solutions.htm](http://www.thencat.org/system_solutions.htm).

### Leadership Matters in Large-Scale Redesign Projects

NCAT is currently in discussions with a number of other states to develop course redesign projects. Leadership for the effort is coming from vastly different places depending on the state. In some states, it logically comes from the statewide coordinating body for technology initiatives like the Ohio Learning Network. In others, the system office or board of trustees is driving the project. In still others, the legislature, the state budget authority and even the governor's office is promoting course redesign. There is no single, obvious entity that should or could take leadership of a state- or system-wide course redesign effort, which is both a positive and a negative. Since there are many points of entry for NCAT to introduce the concept of course redesign, we have many opportunities to make an impact. But not having a clearly defined "driver" for the process presents other challenges. One thing we have learned is that implementing a course redesign program that produces measurable results in both quality improvement and cost savings requires strong leadership. Without it, the cost savings element usually becomes lost in the process. NCAT is fortunate to have very strong and supportive leadership in our current projects, which is essential to developing successful programs.

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## 4. THE ROADMAP TO REDESIGN (R2R)

*Featuring progress reports and outcomes achieved by the Roadmap to Redesign.*

### R2R Workshop Held in Baltimore

On June 16, 2005, teams from the institutions participating in the Roadmap to Redesign met in Baltimore, MD to report their results to date. The teams have completed their pilots; most will be in the full implementation phase during the fall term, although a few will repeat their pilots after making some adjustments to their plans. After hearing an overview of the project's overall progress to date, the teams broke into two groups. The Spanish and Psychology teams met together in one room, while the Math and Statistics teams met in another. Throughout the day, representatives from each team presented an update to others in their group, emphasizing assessment findings and implementation issues they have faced so far. (One team referred to their pilot experience as the "Rollercoaster to Redesign!") During the discussion that followed each presentation, others in each group compared their experiences and provided suggestions of ways to address problems from their own experiences. Updates summarizing the progress to date for each R2R project are available at [http://www.thencat.org/R2R/R2R\\_RedProj.htm](http://www.thencat.org/R2R/R2R_RedProj.htm).

As part of the R2R program, four academic practices were formed in Precalculus Mathematics, Psychology, Spanish, and Statistics. Faculty leaders from the Program in Course Redesign, core members of these practices, also participated in the discussions in Baltimore. These experts, who have already successfully completed a redesign, were able to help the R2R teams by offering ideas on how they might resolve any

implementation issues they face. For more information about the academic practices, see [http://www.thencat.org/R2R/R2R\\_AP.htm](http://www.thencat.org/R2R/R2R_AP.htm).

Representatives from NCAT Corporate Associates Thomson Learning; Pearson Education; Houghton Mifflin; Bedford, Freeman and Worth Publishing; and WebCT also participated in the June workshop. Since all of the R2R participants use content and/or software from one or more of these companies in their redesigns, having representatives at the workshop to answer questions, provide updates on product offerings and offer solutions to problems the redesign teams may have experienced with their software or other materials was very valuable. Hearing the reports and discussions also helped the company representatives learn more about the issues faculty and staff face as they transition to large-scale uses of technology in their courses.

The next R2R meeting will occur in June, 2006, after the teams have completed their first full implementation of their redesign plans.

#### **Charts of Anticipated Cost Savings for R2R Projects Posted on the NCAT Web Site**

Charts that summarize the anticipated cost savings for the Roadmap to Redesign projects are now available on the NCAT Web site. The projected average cost-per-student savings is 42% percent, slightly higher than the projected cost-per-student savings for the projects in the Program in Course Redesign. Savings range from 9 percent to 68 percent. The total dollar savings for the 20 R2R projects is projected to be more than \$2.2 million annually. Collectively, the redesigned courses enroll more than 28,000 students annually. To view the projected savings for each project, see [http://www.thencat.org/R2R/R2R\\_Savings.htm](http://www.thencat.org/R2R/R2R_Savings.htm).

#### **Eastern Washington University Recognizes Bill Williams**

Bill Williams, faculty leader of Eastern Washington University's (EWU) redesign project, was awarded the Century/Tel Faculty Achievement Award given annually to one faculty member in each of EWU's six Colleges. Nominated by his psychology department colleagues and the department chair who cited his teaching and scholarly achievements, and especially his R2R work, Bill was selected by the Dean of the College of Social and Behavioral Sciences. As part of the award, Bill will receive \$1000 and public recognition at the annual Welcome Back Breakfast in September attended by faculty, administration and staff. Awardees were also recognized at the 2005 University Commencement, where the commencement program cited Bill's R2R work in the introductory psychology course in particular, as well as his research and publication record. Congratulations, Bill!

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## **5. CORPORATE CONNECTIONS**

*Linking content and software providers with leading edge institutions.*

#### **Bedford, Freeman and Worth Publishing Joins NCAT Corporate Associates Program**

NCAT is pleased to announce that Bedford, Freeman and Worth Publishing has joined its Corporate Associates Program. The goal of the 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. Bedford, Freeman and Worth Publishing was brought to NCAT's attention as a potential Corporate Associate by R2R participant, [Eastern Washington University](#), which is working closely with Worth Publishing during the redesign of its introductory psychology course. Bedford, Freeman and Worth Publishing joins Houghton Mifflin, Thomson Learning, and Pearson Education, and NCAT looks forward to working with the company. For more information about the [Corporate Associates Program](#), contact Carolyn Jarmon at [cjarmon@theNCAT.org](mailto:cjarmon@theNCAT.org).

#### **Collaborative Workshops Scheduled with Pearson Education**

Pearson Education and NCAT will co-sponsor two one-day workshops highlighting successful course redesigns that use technology to improve student learning. The first will be August 11-12 in Boston, MA, and the second will be October 27-28 in Phoenix, AZ. The workshops will feature NCAT's research-based course redesign methodology: faculty will present case studies that focus on increasing quality and improving efficiency in large-enrollment, introductory courses. The workshops will also feature other innovative course redesign efforts that have led to increased student learning. Participants will learn how to implement course redesign principles in English, Mathematics, Psychology and Spanish (October only) and will also have the opportunity to learn more about Pearson's leading technology products. For more information about how to participate, see [www.pearsoncourseredesign.com](http://www.pearsoncourseredesign.com).

#### **Thomson Learning Connects**

Thomson Learning has established a dedicated service and training group, Thomson Learning Connects (TLC), which is committed to working with institutions, departments, faculty, and systems administrators to ensure smooth, trouble-free, efficient, integration of technology into courses. For institutions embarking on a course redesign project using Thomson products, working closely with this dedicated group can be an excellent way to prepare for implementation, successfully launch a redesign pilot, and support faculty throughout the process. TLC's many services include on-site and online training, Lead Teachers (who provide peer-to-peer training), and a 24/7 service website. In addition, through Thomson's unique TouchPoints program, institutions implementing course redesign will be contacted regularly throughout the pilot process to ensure that questions are answered and problems are eliminated in real time. For more information, contact Joanne Terhaar at [joanne.terhaar@thomson.com](mailto:joanne.terhaar@thomson.com).

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## 6. COMMON GROUND

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

### Commission Says Better Accountability a National Imperative for Higher Education

The State Higher Education Executive Officers (SHEEO) has formed the National Commission on Accountability in Higher Education co-chaired by former Secretary of Education, Richard W. Riley, and former Governor of Oklahoma, Frank Keating. A recent report issued by the Commission, entitled "Accountability for Better Results: A National Imperative for Higher Education" is available online. In this report, the Commission recommends an ongoing and vigorous dialogue targeted on meeting the educational needs of the American people. The report includes a series of recommendations designed to improve student preparation, public investment in educational priorities, teaching and research, cost-effectiveness, and the availability of key data. Among the panel's recommendations are the creation of statewide data systems to help inform policy and budgetary decisions designed to close achievement gaps, the setting and communication to students of explicit learning goals for each academic program and for general education, and the use of external and internal assessments of learning. For more information or to view the entire report, see <http://www.sheeo.org/account/comm-home.htm>.

### Bloggng – for Teaching?

A growing number of faculty and administrators are using blogs as a way to extend learning beyond classroom meetings and to engage students with course content and with one another. Student blogs can promote peer review, foster student-to-student, student-to-faculty, and faculty-to-student interaction; discuss course readings; promote discussion and public comment; address class concerns; extend learning beyond the classroom; and develop writing skills.

- At the **University of Illinois at Urbana-Champaign**, Lanny Arvan has launched a blog about the use and economics of learning technologies in teaching and learning, as well as the related technical issues, at <http://guava.cites.uiuc.edu/l-arvan/blog/lannyexport.html>. Lanny's blog is a useful way to share his reflections and to provide a perspective on this complex topic for others interested in these issues. To learn more, contact Lanny Arvan at [larvan@uiuc.edu](mailto:larvan@uiuc.edu) or read his blog.
- At the **University of Arizona (UA)**, blogging is in widespread use in teaching and learning. A recent issue of *Campus Technology* includes an article by Stuart Glogoff, "[Instructional Blogging On Campus: Identifying Best Practices](#)," that describes how the Learning Technologies Center at UA provides support for instructors using blogging as well hosting blogs for administrative units. During spring 2005, instructional blogging was part of a wide range of courses including freshman composition, graduate seminars in English and philosophy, an upper-level Spanish conversation course, art appreciation, and MIS. To learn more about blogging at UA, contact Stuart Glogoff at [stuartg@email.arizona.edu](mailto:stuartg@email.arizona.edu) or read his blog at <http://blog.ltc.arizona.edu/stuartg/>.

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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.

- To **subscribe** to *The Learning MarketSpace*, [click here](#).
- To submit items for inclusion in this newsletter, please contact Carolyn G. Jarmon, [cjarmon@theNCAT.org](mailto:cjarmon@theNCAT.org).
- Archives of this newsletter are available [here](#).
- This newsletter is a merger of *The Learning MarketSpace* and The Pew Learning and Technology Program Newsletter.
- Archives of *The Learning MarketSpace*, written by Bob Heterick and Carol Twigg and published from July 1999 – February 2003, are available [here](#).
- Archives of The Pew Learning and Technology Program Newsletter, published from 1999 – 2002, are available [here](#).
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