The National Center for Academic Transformation

Course Readiness Criteria

- What impact would redesigning the course have on the curriculum, on students and on the institution—i.e., why do you want to redesign this course?

Is there an academic problem in this course such as a high failure rate? Does the course face a resource problem such as how to meet increased enrollment demand with no commensurate increase in resources? Is the redesign linked to some larger institutional goal—e.g., a Quality Enhancement Plan (QEP), campus strategic plan, a re-accreditation process?

- What is the level of departmental support for the redesign project?

A collective commitment is a key factor for the success and the sustainability of redesign projects. Are the faculty ready to collaborate? Have they engaged in joint conversations about the need for change? Are decisions about curriculum in the department made collectively--in other words, beyond the individual faculty member level? Will the department agree to let a sub-set of the faculty try it?

- Are the participating faculty members able and willing to incorporate existing curricular materials in order to focus work on redesign issues rather than materials creation?

Ideally, one wants the faculty to have a "head start" in the redesign process if possible. Is the discipline one with a comparatively large existing body of technology-based curricular materials and/or assessment instruments? Are the faculty willing to use these materials if they meet course objectives? Will they employ an appropriate blend of using these materials and created "home-grown" materials in a non-dogmatic fashion? Are they willing to partner with other content providers such as commercial software producers or other universities who have developed technology-based materials?

- Do the course faculty members have an understanding of and some experience with integrating elements of computer-based instruction into existing courses to support active learning?

Some faculty may have a great deal of enthusiasm for large-scale redesign but little prior experience in this area. It is difficult to complete a successful project by starting from scratch. Having experience with integrating smaller IT elements into courses helps to prepare for large-scale redesign efforts. What evidence can you provide to demonstrate faculty experience with integrating computing into existing courses?

- Have the course's expected learning outcomes and a system for measuring their achievement been identified?

Successful large-scale redesign efforts begin by identifying the intended learning outcomes and developing alternative methods other than lecture/presentation for achieving them. Have those responsible for the course identified the course's expected/intended learning outcomes in detail? Does your campus have assessment

processes in place—e.g., the ability to collect data? the availability of baseline data? the establishment of long-term measures? Is there a system for measuring the achievement of these outcomes at both the individual student level and the class level?

- Do the project participants have the requisite skills to conduct a large-scale project?

Do each of the parties have the requisite skills (i.e., are they competent to do the job) and are they prepared to partner with others when necessary? What evidence do you have that the participants possess the required skills? Does the potential project have strong leadership? Is there evidence that the faculty and staff involved are ready to move a project forward in a timely manner?

- Do the faculty members involved have an understanding of learning theory?

Sound pedagogy is the key to successful redesign projects. When sound pedagogy leads, technology becomes an enabler for good practice rather than the driver. Do the faculty provide a wide range of options for achieving required learning outcomes? Have the faculty systematically thought about and investigated alternative methods for empowering students to learn? Ds the faculty seek to use technology to transform the teaching and learning environment rather than merely automating existing instructional practice?

- Is your campus committed to a partnership among faculty, IT staff and administrators in both planning and execution of the redesign?

Substantive changes cannot rely on faculty initiative alone because they are systemic and involve changes in such areas as policy (class meeting times, contact-hour requirements, governance approvals); budgeting (planning and processes that support innovation); systems (registration systems, classroom assignments); and, infrastructure (equipment purchase and deployment.) Who will you involve in your redesign project—i.e., who will constitute the redesign team? Have you conducted other projects that demonstrate a partnering approach?

INNOVATIVE COURSE REDESIGN PRACTICES

Creating "Small" Within "Large"

One characteristic of many course redesigns is large class size. Some redesigns begin with large lecture sections and retain those large sizes in the redesign; others reduce the number of sections offered and create larger classes; and, still others combine all sections into one large section. Clearly, larger sections can reduce costs, yet these redesign projects also increase student learning. One way to counteract large section size is to create “small” within “large” by using techniques such as peer learning teams and small learning communities that lead to greater student success.

University of Colorado-Boulder (UC): Astronomy

UC divides its large, 220-student class into small learning teams of 10 to 15 students. The professor provides an overview of the week's activities at a weekly meeting of the full class. About a dozen discussion questions are posted online, ranging from factual questions testing basic knowledge, to complex questions requiring students to draw conclusions, to questions intended to elicit controversy. Midweek, students meet in teams for one hour to prepare answers collaboratively and to carry out inquiry-based team projects. Each team is supervised by an undergraduate coach. Supported by software that allows them to collaborate synchronously or asynchronously, teams post written answers to all questions. At the third weekly class meeting, the professor leads a discussion session in which he directs questions not to individual students but to the learning teams. Before the meeting, the professor uses software to review all the posted written answers to a given question, allowing him to devote the discussion time to questions with dissonant answers among teams. Periodically, the professor poses a related question and gives the class time for each team to formulate an answer.

Florida Gulf Coast University (FCGU): Fine Arts

FGCU offers its required fine arts course in a single large (930 students) section, using a common syllabus, textbook, set of assignments and materials and course Web site. Students are placed into cohort groups of 60 and, within these groups, into peer learning teams of six students each. Learning teams engage in Web Board discussions that require students to analyze two short essays in preparation for producing their own short essays on module exams. The Web Board discussions increase interaction among students, create an atmosphere of active learning and develop students' critical thinking skills. The course is taught 100% by full-time faculty members, who design content modules in their field of expertise and are supported by a newly created position called the preceptor. Preceptors, most of whom have a B.A. in English, are responsible for interacting with students via email, monitoring student progress, leading Web Board discussions and grading critical analysis essays. Each preceptor works with 10 peer learning teams or a total of 60 students.

See also
- Fairfield University (Biology): student teams of 2-3
- IUPUI (Sociology): online discussion groups
- University of Central Florida (Government): 10-student online discussion groups
- University of Idaho (Math): student focus groups

Undergraduate Learning Assistants (ULAs)

Using undergraduates as peer tutors or learning assistants can radically increase the amount of personalized assistance available to students and do so cost effectively. When properly trained, undergraduates have turned out to be better at assisting their peers than graduate students. Because the students regard the learning assistants as peers, they tend to be more open about their difficulties in comprehension than they would be with graduate students, and this leads to better feedback to the instructor. Selection criteria for ULAs include: 1) students who have taken the course and scored in the top 20th percentile; 2) students who understand the goals of the redesigned course and are eager to help make it work; and 3) students who are mature and display leadership skills. Colleagues can be asked to identify students who meet the first criterion. In a brief interview, instructors can assess whether the applicant would be an enthusiastic participant and has the interpersonal skills to be a good team leader.

University of Colorado-Boulder (UC): Astronomy

UC has found that ULAs are more effective than most GTAs in introductory science courses. They are highly motivated to make the course a success. Students meet once a week in learning teams of 10 to 15 supervised by an undergraduate coach to prepare answers to discussion questions collaboratively and to carry out inquiry-based team projects. In meeting with their learning teams, ULAs are expected to help students understand how to use the course technology and to guide the students' collaborative work. They are instructed specifically not to tell the students "the right answers" but are given guidelines to teach students how to find the answers for themselves. One evening each week, the instructor meets with the ULAs for about an hour to discuss upcoming work and to review successes and failures. The ULAs report that their ULA experience was one of their best experiences as an undergraduate. About one-third of them changed their majors to one of the natural sciences as a result of the experience.

University at Buffalo (UB): Computing

One of the most effective changes in UB's course redesign involves using ULAs rather than GTAs. Not only is the number of assistants in each lab doubled, but also the ULAs turn out to be better at assisting their peers than the GTAs. Both faculty and students report that ULAs are more effective than GTAs because of the ULAs' better understanding of course content, superior communication skills and better understanding of students' common misconceptions about computers. Increased lab hours enable the students to have more one-on-one assistance. In addition, students can complete all of their projects during the labs and thus make use of the ULAs and their peers.

See also

- Eastern Washington University (Psychology): peer mentors lead small discussion seminars
- Penn State University (Statistics): undergraduate students assist in labs and grade homework assignments supervised by GTAs
- Wayne State University (Math): undergraduate student tutors provide help to students in labs

Freshmen Don't Do Optional

Course redesign always succeeds when we engage students in doing the coursework, yet typically 30% or so may fail to participate in scheduled learning activities. Some institutions have been more successful than others in addressing the issue of "non-participating" students. Many redesign projects have found that students will participate in supplementary activities like homework and mastery quizzes *if* they require student participation and *if* they give points for doing so. Students participate more, score higher, and spend longer on supplementary activities when course credit is at stake.

The University of Southern Maine (USM): Psychology

At USM, students are required to complete quizzes online in order to master material before coming to class. Students are allowed to take quizzes several times, until they received a satisfactory grade or time runs out. Feedback directs students to specific material that they need to review. USM can continually monitor student progress. Both the instructor and the students know how they are doing in relation to others in class. Students report that they check their status frequently. Instructors find that this feature helps them identify and work with students who are doing poorly as well as acknowledge the efforts of the best students. Students in redesigned sections spend more time studying for the course (typically 3 - 5 hours per week in contrast to 1 - 3 hours) than for other traditionally-taught introductory courses.

University of New Mexico (UNM): Psychology

At UNM, psychology students receive credit for completing three online mastery quizzes, which test both factual and conceptual knowledge, each week. Students are encouraged to take quizzes as many times as needed until they attain a perfect score. Only the highest scores count on all quizzes. The more time students spend taking quizzes, the better they perform on in-class exams. To determine whether quizzes that are mandatory (required for course credit) or voluntary (no course credit) would differentially affect exam and grade performance, UNM conducted an experiment. Students in one section received course points for completing quizzes; students in another section were encouraged to take the quizzes but received no course points for doing so. On in-class exams, students who were required to complete quizzes for credit always outperformed students where taking quizzes was voluntary. Moreover, relatively few students completed quizzes when credit was not a consequence.

University of Alabama (UA): Math

Some institutions recognize that giving course points for attendance increases student engagement and learning but are hesitant to do so because they think it will inflate grades. To determine what effect giving attendance credit has on final grades, UA analyzed the grades of 3,439 students in five courses during the fall 2005 semester. Attendance credit had no effect on the grades of 86.8% of the students. For 4.5% of the students, attendance credit increased their grade by a +/-. For 0.5%, attendance credit allowed them to pass the course. For 1%, attendance credit caused them not to pass the course, and for 7.3%, attendance credit decreased their grade by a +/-. Thus, the argument that giving attendance credit inflates grades isn't supported by the data.

Modularization

Many students get to the end of a course having mastered a large percentage of the material but not enough to pass the course. They are then forced to repeat the entire course. Others are required to take a developmental course because of low placement scores when they only lack a small part of the course content. Course modularization offers institutions a way to accommodate "partial" learning by letting students study only what they don't know and make more rapid progress.

Ohio State University (OSU): Statistics

In its redesign of a five-credit introductory statistics course, OSU moved to a modular course format using technology to manage course administration and monitor weekly progress reports and diagnostics. Students can earn from one to five credits based on successful module completion. By requiring students to demonstrate a passing level proficiency in one unit before proceeding to the next, severe deficiencies can be identified and addressed early, resulting in a lower failure/withdrawal rate. Previously, several hundred students fell behind each year and felt compelled to withdraw. Now if a student completes three of the modules (60% of the material), they receive three credits rather than failing the course. Rather than having to re-enroll for a five-credit course, they can take the remaining two credits in the subsequent semester. Analysis of previous data on drops shows that OSU can eliminate one-fourth of the course repetitions, thereby opening slots for an additional 150 students per year.

Drexel University: Computer Programming

Drexel University combined two introductory computer programming courses—one the primary entry point for computer science majors and the other a less technical version of the same course for non-majors—into one course organized in modules. The modules cover particular aspects of computer programming at five different levels of subject mastery and skill acquisition. Non-majors must demonstrate mastery through level three; computer science majors through level five. Course credit is variable, depending on the number of modules successfully mastered and the level of skill mastery the student attains. Students who have difficulty with the higher levels can change majors and receive course credit without having to drop the course and repeat modules already mastered. Non-majors who develop an interest in becoming a computer science major may go further than originally planned and meet the more stringent requirements.

Seton Hall University (SHU): Math

Some students simply need more time to succeed. After carefully monitoring student progress, SHU discovered that some students in their developmental math sequence were working but working more slowly than others. Seton Hall decided to implement three progress tracks for students: fast, regular and gentle. If students are failing the course after the second chapter test, they are encouraged to sign a learning contract, which states that they will work through the course material in two semesters instead of one (the gentle track.) A few students working on the fast track have finished the course before the end of the semester. They enjoy having extra time to focus on their other courses at the end of the term when the workload is the heaviest.

New Instructional Roles

Are highly trained faculty members needed to conduct all tasks associated with delivering a course? By constructing an instructional support system that comprises various kinds of personnel, institutions can apply the right level of human intervention to particular kinds of student problems. Large-scale course redesigns have created new kinds of positions such as course assistants, preceptors and course coordinators that have specific roles within the course, leaving faculty free to concentrate on those tasks that require their level of expertise. Re-thinking faculty roles within large courses can lead to innovative approaches to staffing.

Rio Salado College (Math): The Course Assistant

Rio Salado created a new position called the course assistant to troubleshoot technology questions, monitor student progress, and alert instructors to student difficulties with the material. Approximately 90% of questions students asked were non-instructional in nature. Adding the course assistant @ $12 per hour allowed Rio to increase the number of students that could be handled by one instructor from 30 to 100. This position was filled first with a math tutor, but the responsibilities of the course assistant did not require math skills; therefore, there was no reason to pay a tutor rate when those skills would be underutilized or never utilized. The “permanent” assistant was a very advanced high school student who found the hours, compensation, and responsibilities satisfactory.

Florida Gulf Coast University (Fine Arts): The Preceptor

FGCU reduced the number of sections from 31 to 2 and increased the number of students served from 800 to 950 in the first year of its redesign. In the traditional course 20% of the instructors were full-time and 80% were adjuncts. In the redesign, FGCU eliminated adjuncts completely. The course is now taught 100% by full-time faculty supported by a new position called the preceptor. Preceptors, most of whom have a B.A. in English, are responsible for interacting with students via email, monitoring student progress, leading Web Board discussions and grading critical analysis essays. Each preceptor works with 10 peer learning teams or a total of 60 students. Replacing adjuncts independently teaching small sections ($2,200 per 30-student section) with preceptors assigned a small set of specific responsibilities ($1,800 per 60-student cohort) in the context of a consistent, faculty-designed course structure will allow FCGU to accommodate ongoing enrollment growth while steadily reducing its cost-per-student.

The University of Southern Mississippi (Literature): The Course Coordinator

Prior to the redesign, 50% of USM’s course was taught by full-time faculty, and 50% was taught by adjuncts. The university replaced 16 minimally coordinated sections with a coherent, single online section of 1000 students and reduced the number of faculty teaching the course from 16 (8 full-time faculty and 8 adjuncts) to the equivalent of 2 full-time faculty supported by four GTAs, eliminating adjuncts completely. A course coordinator directs the team-teaching of four faculty members and four GTA writing assignment graders. Each faculty member teaches a module in his or her area of expertise for four weeks. Faculty experts also collaborate on designing quizzes and exams and the selection of complementary materials. The course coordinator keeps the entire team working in concert.

Avoiding "Either/Or" Choices

We know that students bring different backgrounds, interests and abilities to college courses, yet what do we offer them most of the time? A fixed meal! The meals may be different from course to course—some may be lecture-based, others may be fully online—but most courses employ single strategies. One way to avoid "either/or" choices in course redesign is to offer students a buffet of learning opportunities or a menu of choices that enable them to take different paths to achieve the same learning outcomes.

Ohio State University (OSU): Statistics

OSU's redesign vision is to implement a buffet strategy, offering students an assortment of interchangeable paths that match their individual learning preferences and abilities to learn each course objective. When fully implemented, OSU's buffet of learning opportunities will include lectures, individual discovery laboratories (in-class and Web-based), team/group discovery laboratories, individual and group review (live and remote), small-group study sessions, videos, remedial/prerequisite/procedure training modules, contacts for study groups, oral and written presentations, active large-group problem-solving, homework assignments (graded by teaching assistants or self-graded), and individual and group projects. Students may elect to practice working with a concept in a data analysis laboratory, in an individual Web-based activity, or in a facilitated study session or by explaining it to others in a jigsaw-formatted review. The buffet strategy will accommodate choice in course sequencing: some students prefer to learn by starting with the big picture and moving to specific examples while others learn best by starting with specifics and moving to the general principle.

Tallahassee Community College (TCC): English Composition

TCC's redesign of nearly 60 sections of College Composition involving more than 30 instructors includes a buffet of learning opportunities and options for instructors: course Web site with individual sectional access, pre-loaded with the redesigned course curriculum; individualized state-test diagnostics and routing into learning resources housed on the textbooks' companion Web sites; a menu of common writing assignments for individual instructor and student selection that require the integration of reading with writing; an online training manual to assist instructors with the course redesign and the technological components; increased use of technological ancillaries and resources including online tutoring and response to writing; a battery of reading and writing tests that are computer-housed, scored, and recorded in the course Web site; utilization of two online library and information literacy ancillaries; and the establishment of communities of learners through the Web site discussion board.

Florida Gulf Coast University (FGCU): Fine Arts

FGCU began its redesign with the idea of offering students a wide variety of learning experiences to meet their different learning styles—textual based material, on-line material, practice exams, lectures, labs, etc. The team planned to link each of these experiences to students' different learning styles. When they implemented their plan, they discovered two things: 1) students did not attend any of the face-to-face learning experiences, preferring the text and online materials; and, 2) students did better than students in face-to-face courses who attended lectures. As a result, FGCU eliminated certain elements of the course and moved from a buffet to a fully online model.

Five Critical Implementation Issues

From the experience of the 30 projects involved in the Program in Course Redesign, we have identified the five most important implementation issues that they encountered. Some of these issues were faced by only a few institutions, but when the problem occurred, it created a major obstacle for the redesign implementation. Others were faced by a number of institutions. Some institutions did not encounter these issues because they foresaw them and dealt with them in advance. Others did not anticipate the particular problem and had to deal with it in mid-project. Some worked on solving the problems constructively and ended up with successful redesigns; others "backslid" and abandoned key aspects of their redesign plan. We refer to these implementation issues as "critical" because planning how you will deal with them can be the key to achieving success in course redesign.

We encourage you to pay special attention to how you will:

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

1. Prepare students (and their parents) and the campus for changes in the course.

Making the change from traditional classroom instruction to new ways of learning involves far more than learning to use a computer. Many students are set in their ways after a lifetime (albeit brief) of passive instruction. They need preparation in making the transition to more active learning environments. Giving careful thought to how students, their parents and the rest of the campus community will learn about the redesigned course will help you avoid a number of problems that can arise.

> *University of Southern Mississippi Example*: "Initial stories in the campus and local press emphasized the technology of the course, especially its online dimensions, and pitched making life easier as students could 'come to class without leaving home.' The stories frightened many students, angered faculty, and confused administrators as parents phoned them to ask for details about an 'instructorless' course that was still in the design stage. In hindsight, a better approach would have been to emphasize how traditional the course could be for students who chose that path: students could still attend live presentations and participate in discussions; WebCT was already being used in hundreds of other campus courses; and there would be more in-person help and office hours available than ever before with a nine-person team (four faculty instructors, four graduate assistant graders, and a faculty coordinator) collectively offering the redesigned course rather than the sole instructor of a 'normal' course. It would have been better to insist that the press stress educational ends rather than technological means from the outset. Although improved reading and writing skills will always seem less newsworthy than stories about streaming video, it's

nevertheless crucial to keep a clear focus on why the technology has been called into play in the first place."

University of Dayton Example: "Student surveys revealed that a major contributor to students' pre-course attitudes toward distance learning was the belief that the course would be impersonal and would lack opportunities for student-student and faculty-student interaction, even though they had never participated in a distance-learning course. The course needed to be promoted among students, faculty, and staff. A Web site that included a demonstration version of the course was an effective promotional tool. The university needed to develop and communicate to parents and students a coherent and compelling description of its e-learning initiatives that addressed common misconceptions and concerns (e.g., that the university is turning into a 'distance learning' campus). This requirement will change as everyone on campus becomes more familiar with distance learning."

University of Alabama Example: "The radical change in instructional style associated with the course redesign produced some unique issues not typically associated with the traditional course structure, what the team dubbed the 'No Teacher Syndrome.' During the first year of implementation, students were very concerned about the lack of a formal teacher for their course even though they had one-on-one instructional support available at all times. In an effort to develop a personal relationship between students and instructors, weekly 30-minute 'class' sessions were scheduled, an automated e-mail system was developed to allow instructors to contact their students on a weekly basis, and the time instructors spent in the lab was fixed and publicized to allow students to come to the lab at specific times and deal with the same instructional staff."

2. Train instructors, graduate teaching assistants (GTAs), and undergraduate peer tutors.

Several projects experienced problems because they underestimated the degree of instructor, GTA, and undergraduate tutor training—both initial and ongoing--that was required in order to implement their redesigns successfully. Regardless of the redesign model chosen, the new format will inevitably require very different kinds of interactions with students than those of the traditional teaching format. Developing a formal plan for initial and ongoing training of all personnel—rather than assuming they will pick up the new methods on their own—will go a long way to ensuring a successful redesign.

University of Tennessee-Knoxville Example: "Initially the team overestimated the level of GTA preparedness and underestimated amount of training needed. Many of the GTAs had no experience in an online environment and were not prepared to help the students when they asked questions or encountered problems. Although training was held prior to the start of the pilot term, the team discovered that there was a need for ongoing training and stronger continuing GTA support than was initially planned. As the course numbers scaled up toward full implementation, the Instructional Technology Center increased the amount of GTA/instructor training on the course management system and exposure to the course structure to compensate for those with limited technology skills and/or experience. Because many of the GTAs were Master's candidates with minimal

or no teaching experience, their readiness to engage in a newly designed learning environment was also low."

University of Alabama Example: "Training instructors, graduate teaching assistants, and undergraduate tutors to 'teach' in the lab has been a major challenge. The one-on-one assistance the computer-based format requires was very different from the teaching format the instructors had used and/or experienced in the past. The university has expanded training for instructors each semester to better equip them to provide assistance to students in the Math Technology Learning Center."

Drexel University Example: "The desire to go back to old ways of doing things had to be overcome by both faculty and students. Once this occurred, many embraced the new system as providing a better learning experience. As new faculty, teaching assistants, and students were brought into the course over time, it was important to help them go through the same steps of accepting a different learning model and to point out ways of creating the type of connections attributed to the traditional lecture format. Laboratory assistants needed to be coached in how to facilitate and engage students in problem-solving rather than in resorting to lecturing or providing answers to students. Thus a formal training system with follow-up monitoring was needed for new faculty, teaching assistants, and laboratory assistants so they could fully adapt to the course redesign."

3. Ensure an adequate technological infrastructure to support the redesign as planned.

Technological problems encountered by the projects were of two kinds. The first kind of problem had to do with providing enough space in a timely manner to support the redesign model. Securing an upfront commitment from the institution regarding necessary space (or choosing a model that is not as space-dependent) will ensure that the project avoids implementation delays. The second kind of problem had to do with scaling issues. Many campuses have only offered relatively small online courses. Offering a course with heavy online components to hundreds—or thousands—of students requires a serious consideration of the technological infrastructure required to support it.

Space Issues

University of Iowa Example: "Full implementation was delayed by a lack of available laboratory space. At the time of the proposal, the university made a commitment to transferring lab space from botany to chemistry. A delay in construction and botany's move meant that those facilities could not be used. An organic chemistry lab was finally transferred to support the redesign course."

Iowa State University Example: "At the time the project began, the College of Liberal Arts and Sciences was planning to create a centralized computer lab. These plans did not succeed as scheduled, so the course was not fully implemented on the planned scale. This problem has now been resolved. About one-third of the course was redesigned in fall 2003, and the full course will be redesigned in spring 2004 and beyond."

University of Idaho Example: "Finding sufficient space in an easily accessible and convenient location for the Polya Center required rehabbing space and relocating some offices. Now housing 71 computers in pods of four that are designed for as many as three students to work together at a single monitor, the Polya Center provides a learning environment for over 2400 students annually. To accommodate this large number of students, the Polya team has spread the load of student use more evenly by spreading assignment deadline dates across each day of the week. Thus 20% of students have deadline dates for assignments, tests and quizzes on Monday, 20% on Tuesday, and so on. The space is used more consistently, rather than just before a test or assignment is due, allowing more students to be accommodated in a smaller lab and reducing the lab downtime."

Scaling Issues

University of New Mexico Example: "The keystone for the success of the redesigned course was the randomly generated mastery quiz. Students would take a quiz many times in order to achieve a perfect score. Often they would continue taking quizzes even after having attained a perfect score. The ability to offer literally thousands of quiz items per student per week and to provide immediate feedback on performance could not have been achieved without the availability of online quizzing. Psychology, however, was the only course placing this degree of demand on the university's WebCT server. There are now concerns that the server may not be able to continue to meet present demands, let alone future demands if other courses were to implement the multiple quiz design."

Portland State University Example: "The technology created a considerable obstacle for a significant minority of students. Surprisingly, it was not the computer illiterate who encountered the most difficulty, but the students who insisted on performing all online activities from their home computers, where we could not provide technical assistance. Although all students were strongly encouraged to use university computer labs, about 90% did their activities from home, with about 10% of them experiencing chronic frustration. Both the Spanish program and the university continue to develop new WebCT training materials for student and instructor training."

University of Tennessee-Knoxville Example: "Technological problems constituted the most important implementation issue experienced by most students at each phase of implementation and one that continues to be a challenge. The first four to five weeks in the pilot term were extremely problematic due to server problems. Students were frustrated and anxious, and instructors complained about the amount of time they had to spend resetting activities, responding to student email questions and complaints, and discussing technology-related problems in class. These frustrations were magnified as a result of increased class sizes. The technological problems were rooted in a glitch in the server. After the problems were resolved, there was a substantial reduction in student complaints. In a subsequent term, the course management system and delivery servers were upgraded to the more robust enterprise version of Blackboard. After these changes, there were only minor problems and the

feedback from both instructors and students was quite positive. In collaboration with the course coordinator, the technical and instructional support staff have worked diligently to rectify technical problems and increase instructor support."

4. Achieve initial and ongoing faculty consensus about the redesign.

The biggest implementation issue for several of the projects was achieving consensus about a variety of issues among all faculty teaching the course. Since course development is usually done by a single faculty member working on a single course, the redesign of an entire course by multiple faculty can present a number of challenges such as gaining agreement on core course outcomes, instructional formats, topic sequences and a common Web site. Since instructors are often not used to talking about such issues, they need time to work through them. As several projects have commented, however, this can be a "good" problem to have. Collective decision-making and departmental buy-in are key factors that lead to successful redesigns.

Tallahassee Community College Example: "While the English faculty agreed to the redesign initially, once it was accomplished there was some opposition from several faculty members. In retrospect, the team needed to do a better job of communication and inclusion and actively involve the other 16 full-time faculty in improving redesign components and course evolution. This has been largely overcome and is not an issue with adjunct faculty."

Riverside Community College Example: "The large number of faculty engaged in the redesign (24 spread among three campuses) led to a very complex redesign organization. Various committees created a common syllabus, common tests and finals that ensure that course outlines of record are being followed, a common grading metric that ensures that academic standards are upheld, and lab worksheets. Accomplishing these tasks required significant time and reaching a consensus on topics required patience and a lot of give-and-take. The discussion that resulted among faculty at all three campuses regarding student performance after the assessment of the redesign was also an unexpected, positive outcome."

Fairfield University Example: "Since some traditional lectures were replaced by computer activities each semester, less time was available to cover the necessary material in the traditional lecture format. Thus, some lecture material that has become obsolete in today's science was eliminated, as were certain laboratory exercises that are simply procedural rather than inquiry-based. Instead, the team relied on particular software activities as assignments outside of class to emphasize the detail in biological concepts. The team had strong backing from most of the department, including freedom and encouragement to redesign the course syllabus as appropriate. The team has, however, been constantly faced with the challenge of obtaining faculty buy-in from the entire department. Thus far, they have been able to convince the majority that the changes will enhance learning without sacrificing content. The team has concluded that being effective change agents does not require complete buy-in if there is core support."

5. Avoid backsliding by building ongoing institutional commitment to the redesign.

You will undoubtedly notice that we emphasize institutional commitment to course redesign, and that includes building and sustaining that commitment throughout the life of the project. In the course of implementing a redesign, things happen. Lead faculty members leave or retire; departments get reorganized; presidents and provosts get new jobs. Faculty members on their own can show (and have shown) spectacular success in creating highly effective new learning environments, but in order for these successes to be sustained or for them to have a real impact on the institution as a whole, both departmental and institutional administrative leadership needs to play an active and continuing role.

You will inevitably encounter problems in implementing your redesign as you make a transition to a new form of instruction. Without a full commitment to preserving the key elements of the redesign while addressing the problems you encounter, the institution may simply abandon the redesign, thus forgoing either the learning gains or the cost savings benefits or both.

> *University of Dayton Example*: "Our greatest challenge involved institutional support. Some administrators viewed this redesign project as a grand experiment or test case. The project has exposed a number of issues that need to be addressed, regardless of the success of our redesign. Our intellectual property policy needs to be revised to cover the development of online courses. The university needs to develop and communicate to parents and students a coherent and compelling description of our e-learning initiatives that addresses common misconceptions and concerns (e.g., that the university is becoming a "distance learning" campus). Far from being an insulated and isolated project, this redesign was simply the first of many such efforts. The more that the university can do now to learn from and address the larger support and public relations issues raised by this project, the easier it will be for future redesign teams."
>
> *Drexel University Example*: "In the middle of the project, the department of mathematics and computer science was split into independent departments in different colleges. The importance of having strong support from departmental (and university) leadership became increasingly clear after the department was split. Team members ended up in both departments, which created conflicting priorities that affected the pace of redesign. Unlike the joint department head, the new computer science department head was not a member of the redesign team, which resulted in a change in project scope because of a decision about how the target courses would be used. The fragility of creating and sustaining major pedagogic change under changes in leadership, which may bring changed priorities, was evident. Existing redesign features at the time of the split have been sustained and more fully developed, but aspects of the redesign that were not yet in place have been problematic to initiate due to changing interests and changing personnel. The project team is still working to achieve all of the redesign goals; however, the pace of implementation has been slowed."

Riverside Community College Example: "The three RCC campuses successfully implemented the full redesign with all 3600 students, demonstrating increased student learning gains and decreased costs. Nevertheless, some faculty preferred the old model. In response to that faculty preference, a number of changes occurred on the three campuses. In fall 2002, RCC began offering a choice of either the redesigned or traditional lecture format at two of the campuses. Altogether 11 redesigned sections (enrolling 805 students) and 10 traditional sections (enrolling 500 students) were offered. The third campus has developed a model that uses the redesign model but also incorporates pencil and paper homework requirements. Topics and term schedules are still coordinated between two of the campuses because some students use labs on both campuses; however, tests are developed independently. Although the workshops on math study skills and time management were successful, they are no longer part of the redesigned course. These techniques have been combined into a credit course not applicable to a degree, which is offered occasionally."

Final Proposals

Final proposals should include the following sections:

Abstract
Following a title page, write a one-page abstract. The abstract should conform to the following format:

- Paragraph 1 – summarize the current (traditional) course including numbers of students enrolled.
- Paragraph 2 – summarize the academic problem that you are addressing.
- Paragraph 3 – summarize the planned course redesign.
- Paragraph 4 – summarize how the redesign will enhance quality.
- Paragraph 5 – summarize how you will assess the impact of course redesign on learning.
- Paragraph 6 – summarize how the redesign will produce cost savings and what you intend to do with the savings.

Application Narrative

- Select a redesign model and explain why you chose it and how you intend to embody the Five Principles of Successful Course Redesign within it.
- Describe the learning materials you intend to use.
- Describe your modularization strategy.
- Select and describe a cost reduction strategy. Explain why you chose it and what you will do with the savings.
- Include a brief timeline for your redesign project. You must plan to conduct a Phase I pilot during spring 2008, a Phase II pilot during fall 2008, and a Phase III pilot during spring 2009.
- Include a project budget and a budget narrative.

Worksheets and Forms

- Complete the Assessment Forms (2) for the pilot and full implementation of your redesign project.
- Complete the Course Planning Tool (CPT). Provide a brief narrative that explains the entries in the CPT where necessary.
- Complete the Cost Savings Summary Form (CSS). Provide a brief narrative that explains the entries in the CSS where necessary.
- Complete the Course Structure Form (CSF). Provide a brief narrative that explains the entries in the CSF where necessary.

Readiness Criteria

- Include a revised version of your responses to the eight Course Readiness Criteria (about one page each) as they apply to the selected course, focusing on evidence that demonstrates the way in which they meet each criterion.

Final Application Format

- Submit files in either Word or Excel format. No Acrobat files, please.
- Name all files INSTITUTIONNAME [What the file is—e.g., APPLICATION, CPT, CSF, etc. Include your institution's name on each spreadsheet page.

Additional tips and information about the Course Planning Tool:

- You must fill in all 3 spreadsheets.
- You must translate your data to cost per student.
- Please explain the spreadsheets in the course planning tool narrative. This is the place to elaborate any aspect of the planning tool that is not self-evident, to explain variations among personnel (e.g., 2 TAs teach 1 section, 1 TA teaches 2 sections), etc.
- Please do not add spreadsheets to the tool. Include additional data or comments in narrative.
- Please be clear about whether you are showing a section or the whole course or whether you are showing one term or the whole year.
- Be sure to include benefits costs in personnel costs.

Course Planning Tool (CPT) drafts must be submitted electronically to Pat Bartscherer at patb@theNCAT.org by **July 9, 2007**, for preliminary review.

Final proposals should be submitted electronically to Treva Berryman, Associate Vice Chancellor for Academic Affairs at treva.berryman@tbr.edu.

Proposal Submission Deadline: July 15, 2007.

