

HOW TO REDESIGN A COLLEGE COURSE USING NCAT'S METHODOLOGY

IV. 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, an institution can apply the right level of human intervention to particular kinds of student problems. By replacing expensive labor (full-time faculty members and graduate teaching assistants) with relatively inexpensive labor, less expert (adjunct faculty members, undergraduate peer mentors, and course assistants) when appropriate, it is possible to increase the person-hours devoted to the course and the amount of assistance provided for students. Rethinking instructional roles within large courses can lead to innovative approaches to staffing.

Q: Who are these new instructional personnel?

A: Large-scale course redesigns have created new kinds of positions—such as undergraduate learning assistant, course assistant, early intervention specialist, preceptor, and course coordinator—which have specific roles within a course, leaving faculty free to concentrate on the tasks that specifically require their level of expertise.

Undergraduate Learning Assistants

Undergraduate students make excellent peer tutors or learning assistants. The use of undergraduates can radically increase the amount of personalized assistance available to students—and cost-effectively. When properly trained, undergraduate learning assistants (ULAs) have turned out to be far better at assisting their peers than graduate teaching assistants are. Because students regard ULAs as peers, they tend to be more open about their comprehension difficulties than they would be with graduate students, which leads to better feedback to the instructor. Using undergraduates as such assistants has turned out time and again to be one of the most successful ingredients of redesigned courses.

Q: What responsibilities do ULAs have in the redesigned course?

A: The ULA role needs a formal definition so that the duties and responsibilities are clear to all interested parties: the ULAs themselves, students, faculty, and others on campus who may have the impression that ULAs are “mini-professors.” Faculty members must both carefully structure ULAs’ specific roles and then train the ULAs, meet with them repeatedly throughout the semester, and provide overall supervision to be sure they are carrying out their assigned roles.

Examples

- The redesign of The Economic System at Buffalo State College relied significantly on ULAs. Each semester, six to eight trained ULAs monitored the course’s online activities. Each ULA supervised the activities of approximately 35 to 40 students. The work of the ULAs included managing small-group activities; communicating, updating, and releasing content on the course website for students; and holding office hours in a computer lab to give students the one-to-one assistance that they needed.

- The redesign of Public Speaking at Arizona State University tripled course capacity—with no diminution in quality, in large part due to the use of ULAs in speech labs. The ULAs worked in pairs and evaluated student speeches by using a rubric developed by the supervising faculty member. ULAs received training in using the rubric and met weekly as a group with the faculty member to discuss any issues that had arisen. All speeches were videotaped so that the faculty member could intervene if there were any question about the ULAs' evaluations.
- Frostburg State University used ULAs extensively in its redesign of General Psychology. These highly trained students ran computer labs designed to help students complete work successfully. ULAs delivered brief PowerPoint presentations describing the online work to be completed for the week, and they described the grading rubric for the activities. After the presentation, ULAs were available to help students with their work. In addition, the ULAs were involved in all aspects of the online portion of the course, including moderating student discussions and monitoring students who were struggling with the course.
- At the University of Colorado Boulder, students met once a week in learning teams of 10 to 15 supervised by a ULA to collaboratively prepare answers to discussion questions and to carry out inquiry-based team projects. Each ULA (or coach) supervised two learning teams. In meeting with their learning teams, ULAs were expected to help students understand use of the course technology and to guide the students' collaborative work. They were instructed specifically not to tell the students "the right answers" but were given guidelines to teach students how to find the answers for themselves. For example, if a student was having difficulty with a concept or procedure, a coach might simply refer the student to another student on the team who had mastered the problem. The ULAs were also expected to attend the discussion session of the class—where they would help keep score of the verbal answers—and to continue to guide students to collaborate asynchronously by monitoring and encouraging their work on the team home page.

Q: What qualifications and backgrounds do ULAs need to have?

A: Selection as ULAs typically includes students who have taken the course and scored in the top 20th percentile, students who understand the goals of the redesigned course and are eager to help make it work, and students who are mature and display leadership skills.

Some redesign teams have found that ULAs do not need expert subject knowledge to carry out their duties effectively. They need good learning skills and the ability and desire to impart those skills to their fellow students. For example, in the redesign of Introductory Astronomy at the University of Colorado Boulder, only about one-third of the students who applied and were hired as ULAs were science or engineering majors. Then, about one-third of the ULAs subsequently changed their majors from humanities and social sciences to natural sciences as a result of the experience.

Q: How should we identify potential ULAs to work in the course?

A: It has turned out to be surprisingly easy to hire students of exceptional talent as ULAs. Here are two examples.

At the University of Colorado Boulder, an astronomy professor:

- Asked colleagues who taught other sections of the same course to provide him with lists of students who met the recruitment criteria so he could supplement his own list of such students who had taken the course from him.
- Sent a detailed job description and invitation to apply to about 20 students on the lists.
- Provided the redesign plan describing the goals and methodology of the course for the 15 who responded that they were interested.
- Invited them to read the plan and make an appointment to discuss their interest and qualifications to participate in the project.
- Assessed via brief interviews whether applicants had understood the proposal, would be enthusiastic participants, and had the interpersonal skills to be good team leaders.

At Buffalo State College, ULAs were recruited in two ways.

- By encouraging good students who had taken the course in the previous semester to participate.
- By working with teacher education students whose majors were social studies education and elementary education with a social studies concentration. Economics is a required topic for both majors, and the pedagogical nature of the candidates' ULA participation would be valuable to their career preparation.

Q: After initial training, how often should the instructor meet with ULAs?

A: In general, redesign teams have found it important to meet with ULAs at least once a week. During the meetings, the instructor(s) and the ULAs discuss the work to be done during the coming week and review the successes and failures of the redesign implementation thus far.

For many instructors, the weekly meeting is one of the most satisfying and enjoyable experiences in teaching the course. The learning assistants develop a strong esprit de corps. They are assertive and provide much creative and detailed advice about how to improve the course. With exams and quizzes, the instructor can to some extent measure how well students are learning the material in the course; but the scores do not tell the instructor how to help students improve their comprehension. The feedback that instructors gain from the meetings gives them a much better sense of how to improve the course than they could ever get from exams alone.

Q: What about offering ULAs a course for credit in lieu of payment?

A: Most redesigns begin with paying ULAs on an hourly basis for their work in the course. But as course redesigns became more sophisticated, team leaders developed the idea of offering a concurrent seminar course in pedagogy that augments ULAs' formal training and provides opportunities for them to increase their technical expertise, refine their teaching techniques, and develop new material for the course. Thus, they receive course credit for their participation instead of pay.

In the seminar, the participants read and discuss literature on inquiry-based education, collaborative learning, and the design and appropriate role of information technology in education—all issues closely related to the ULA experience. In addition to reading the materials and participating in the discussion, ULAs are expected to produce final papers or portfolios that relate some aspect of the literature that has been discussed to their experiences as ULAs.

Q: What are some other ideas of creating incentives for undergraduates to participate as ULAs?

A: One way to add an incentive to being a ULA and to reward returning ULAs is to create a track, certificate or area of emphasis within the major. For example, Frostburg State University created a leadership in psychology emphasis for students majoring in psychology that included an upper-level seminar as described above and other courses considered to be leadership-oriented. The courses satisfied the psychology major and helped students get closer to earning a minor in leadership studies. The emphasis was shown on their official transcript upon graduation and provided students with a unique, resume-enhancing learning experience. Students had the option of repeating the ULA seminar to provide an incentive for already trained ULAs to return, thus decreasing the need to train a completely new group of ULAs. Making the opportunity to repeat the seminar an option allows you to prevent ULAs who were not successful from returning or to lower the number of ULAs if you do not need as many to return in a given semester.

Other Examples of New Instructional Personnel

NCAT's partner institutions have developed a variety of new instructional personnel to take on specific responsibilities within the overall course structure. Following are examples.

Course Assistant. In redesigning a number of introductory math courses offered fully online, Rio Salado College created a new position called *course assistant* to troubleshoot technology questions, monitor student progress, and alert instructors to student difficulties with the material. Approximately 90 percent of questions students asked were non-instructional in nature. Adding the course assistant at compensation of \$12 per hour enabled Rio Salado to increase the number of students that could be handled by one instructor from 30 to 100. The 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 tutoring 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.

Early Intervention Specialist. In redesigning Introduction to Psychology at Northern Arizona University, the team created a position called *early intervention specialist* (EIS). The EIS monitored students' performance throughout the semester and alerted those with low scores to resources available for extra course help. The EIS contacted low-scoring students by e-mail after each exam, encouraging them to visit during office hours—in order to review exam questions and learn study skill strategies—and serving as a personal contact for students having difficulty in the course. The most-senior and most-skilled graduate teaching assistant was assigned to serve as the EIS.

In addition, the EIS worked with study skills specialists to develop and hold workshops throughout the semester based on pilot results showing that lack of such skills was a major barrier to success in Introduction to Psychology. The workshops instructed students on the topics of test taking, lecture styles, effective note taking, and textbook reading. The workshops were well attended, and their success has led to their continued inclusion in the course.

The EIS role evolved somewhat from the original conception. The team found that the EIS got a great deal of student interest in office hours and the study skills workshop without having to pursue students with low grades or poor attendance. In keeping with the goal of promoting individual contact in a large-class setting, much of the EIS's efforts are now directed toward

reviewing exams and assignments with individual students. The EIS succeeded in recruiting more than a hundred students, mostly first-year students, to attend workshops led by a Northern Arizona University study skills specialist. This way, the EIS is promoting student success and engagement not just in the Introduction to Psychology course but also in students' course work at large.

Preceptor. Florida Gulf Coast University reduced the number of sections in its introductory fine arts course from 31 to 2 and increased the number of students served from 800 to 950 in the first year of the course's redesign. In the traditional course, 20 percent of the instructors were full-time and 80 percent were adjuncts. In the redesign, the university eliminated adjuncts completely. The redesigned course was taught 100 percent by full-time faculty supported by a new position called *preceptor*. Preceptors, most of whom had BAs in English, interacted with students via e-mail, monitoring student progress, leading online discussions, and grading critical-analysis essays. Each preceptor worked 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 enabled the school to accommodate ongoing enrollment growth while steadily reducing its cost per student.

Course Coordinator. Prior to the redesign, 50 percent of a world literature course at The University of Southern Mississippi was taught by full-time faculty and 50 percent was taught by adjuncts. The university replaced 16 minimally coordinated sections with a coherent, single online section of 1,000 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 graduate teaching assistants, thereby eliminating adjuncts completely. A course coordinator directed the team teaching of four faculty members and four graduate-teaching-assistant writing-assignment graders. Each faculty member taught a module in his or her area of expertise for four weeks. Faculty experts also collaborated on the designing of quizzes and exams and the selection of complementary materials. The course coordinator kept the entire team working in concert.

Training for New Instructional Personnel

Q: How much training is needed for new instructional personnel?

A: Many institutions experience problems in course redesign because they underestimate the degree of training—both initial and ongoing—that is required in order to implement their redesigns successfully. The new format inevitably requires certain kinds of interactions with students that are very different from those under 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. Those working in a redesigned setting for the first time need enough training to understand the new philosophy of teaching.

Q: What should training include?

A: All new instructional personnel need to be trained in how to facilitate problem solving and how to engage students in that problem solving rather than resorting to lecturing or providing answers for students. Training should include:

- A full explanation of the redesign, including its rationale and benefits
- Clear guidelines on responsibilities under the new model
- Instruction in the use of course technologies and instructional software
- Discussion of all course policies and procedures
- The importance of maintaining consistency in implementation of all of the elements of the redesign

Q: How often do we need to train new personnel?

A: As new personnel are brought into the course over time, it is 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. We recommend holding at the beginning of each semester a workshop for tutors new to redesign and then monitoring their work throughout that initial term of working in the redesign model. Ongoing mandatory training of new personnel is the only way to ensure that success will be achieved.

Q: How often do we need to train experienced personnel?

A: The desire to go back to old ways of doing things has to be overcome. All personnel need periodic reminders of the policies and procedures and need to learn about changes in the software and other technologies used in the course. We recommend holding a meeting with all experienced personnel at least once each semester to review old policies and point out any new ones.