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INSTITUTIONALIZING LARGE-SCALE CURRICULAR CHANGE:

The Top 25 Project at Miami University

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Culture does not change because we desire to change it. Culture changes when the organization is transformed; the culture reflects the realities of people working together every day.

Frances Hesselbein (1999)

Now more than ever, it is urgent that colleges and universities mobilize themselves to produce graduates who are capable of being productive, creative, and responsible members of a global society. Employers tell us they want clear communicators who are strong critical thinkers and who can solve real-world problems in an ethical way (AAC&U 2009). To achieve these outcomes, we believe that colleges and universities must create an educational culture that promotes engaged student learning. Faculty, staff and administrators must work together to help students take responsibility for their own learning and their own lives and see themselves as constructors of knowledge rather than passive recipients of information.

In 2007, Miami University began a new initiative that was intended to institutionalize “engaged learning” across the curriculum. We built upon the university’s long-standing tradition of academic rigor and close faculty-student relationships, combined with active co-curricular support for leadership and collaboration. We sought to extend Barr and Tagg’s (1995) learning paradigm by envisioning our students as learners and discoverers and situating that learning and discovery within student development theory (Hodge, Baxter-Magolda, and Haynes, 2009).

We targeted the transformation of our largest-total-enrollment lower-level courses in order to change the “habits of mind” of our students at the earliest possible moment in their studies. By focusing on large-enrollment courses from all divisions of the university, we sought to create momentum for institution-wide change. In addition, we intentionally encouraged faculty not directly involved in the project to adopt similar strategies in their courses, in the hope of bringing about a broad-scale change in the culture of teaching and learning across the university.

Such sweeping change is not without challenges: Some faculty will resist initiatives they perceive as top-down, some students will resist learning in new ways, and innovations are hard to maintain. In this article, we describe the process we used to implement these changes, the types of transformations that were implemented, the challenges we faced, and (perhaps most importantly) the encouraging outcomes of these changes, as well as the road ahead.

STRATEGIES TO EFFECT INSTITUTIONAL CHANGE: THE TOP 25 PROJECT

The Launch

Beginning in January 2007, faculty who taught the 25 largest-total-enrollment classes at the university were eligible to compete for five to nine annual awards of approximately \$35,000 each to transform those courses. Taking our cue from the National Center for Academic Transformation (Twigg, 2003), we insisted that the transformation be achieved with a design that could not cost more per student than the current course. The proposals were evaluated based on the promise they showed to

- Be student-centered and use active learning and inquiry-driven approaches to learning,
- Use appropriate methods to engage students in their own learning and to engage learners with each other,
- Use approaches that improved students’ critical-thinking and/or problem-solving skills,
- Reduce the amount of class time spent on providing descriptive material or facts by helping students to learn this material outside of class, and
- Increase the amount of time students devoted to their coursework.

Proposals had to come from a team of three or more individuals, including at least one tenured faculty member. In order to ensure institutional change, proposals were

required to have departmental support. Most specified that their budgets would be devoted to faculty release time or summer salary to work on curriculum development. Additional expenditures included consultants, software packages, specialized equipment, and multimedia development or purchase. The proposals were evaluated using a rubric based on the five criteria above.

Top 25 Program Courses

ACC 222, Introduction to Managerial Accounting
 ART 188, History of Western Art: Renaissance to Modern
 BLS 342, Legal Environment of Business
 BMZ 115, Biological Concepts: Ecology, Evolution, Genetics, and Diversity
 BMZ 116, Biological Concepts: Structure and Function
 CHM 144 and 145, College Chemistry Laboratory
 COM 135, Public Expression & Critical Inquiry
 CSA 141 and 148, Personal Computer Application and Business Computing
 DSC 205, Business Statistics
 ECO 201, Principles of Microeconomics
 ECO 202, Principles of Macroeconomics
 EDP 201, Human Development and Learning in Social and Educational Contexts
 ENG 111, College Composition
 ENG 112, Composition and Literature
 FIN 301, Introduction to Business Finance
 GEO 101, Global Forces, Local Diversity
 GLG 111, The Dynamic Earth
 MBI 111, Microorganisms and Human Disease
 MBI 131, Community Health Perspectives
 MGT 291, Organizational Behavior and Theory
 MGT 302, Introduction to Supply Chain and Operations Management
 MIS 235, IT and Intelligent Enterprise
 MKT 291, Principles of Marketing
 MTH 151, Calculus I
 POL 101, Politics and National Issues
 POL 102, Politics and Global Issues
 PSY 111, Introduction to Psychology
 STA 261, Statistics
 THE 191, Theatre Appreciation

To launch the project, a Top 25 leadership team with expertise in faculty development, curriculum design, assessment, and inquiry-guided learning was assembled to provide support to the faculty teams. Depending on the nature of the redesign project, additional support staff included instructional technology specialists; writing center personnel; librarians; staff from the Center for the Enhancement of Teaching, Learning, and University Assessment (CELTUA); and a diverse group of faculty, called the Assessment Fellows, who are skilled in assessing critical thinking.

Program Features

Over the course of four and a half years, the project has affected 29 of the largest-enrollment classes at the university, with over 30,000 seats per year, in a wide array of disciplines. The courses are taught in a variety of section sizes, from large lectures with over 200 students per class to courses that have many sections of 25 students each. The classes in the Top 25 project are primarily at the 100 and 200 levels, with only a few 300-level courses.

Each year, just after classes end in the spring, a workshop is held to launch the next year's projects and acquaint the incoming teams with the support available to them. Additional workshops on a variety of topics, held periodically, are aimed at Top 25 faculty, but they are also open to the entire university community.

Again stressing the importance of institutional rather than individual change, during the year team leaders participate in a seminar, with key readings and discussion aimed at clarifying and expanding their knowledge of inquiry-based-learning approaches. In addition, team leaders meet periodically to discuss issues, challenges, and approaches with one another. Creating a cohort of team leaders provides many opportunities for them to learn from each other and to identify how various support functions of the university could provide even better services.

Assessment and feedback to the teams has been a critical component of the redesign process. As teams initially piloted the redesigns in a few sections, classroom observations and follow-up discussions were conducted. Student focus groups were convened at multiple points in the launch process to provide feedback to the faculty. Students in both the traditional and redesigned versions of the Top 25 classes were surveyed about issues such as their satisfaction, their perceptions of inquiry-guided learning, and classroom activities. Finally, Top 25 faculty provided samples of student work (papers, speeches, projects) that were evaluated by the Assessment Fellows for evidence of critical thinking.

These various forms of assessment have continued to provide continuous feedback about progress as the classes are taught, modified, and then taught again. This allows progress to be monitored as the faculty try options and become more comfortable with the new approaches, while student expectations for the class change.



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Models

Faculty ownership of the course-redesign process has led to the adoption of a variety of models focused on student engagement and inquiry-based learning. Some large lecture classes increase engagement by interspersing lecture segments with small-group problem-solving, think-pair-share activities, and clicker-question discussions. Some courses, such as ones in economics and marketing, take this approach even farther by employing an “inverted classroom” strategy, in which information dissemination happens outside the classroom and in-class time is used for activities that benefit from student collaboration and active instructor support, such as real-life problem-solving and case studies.

Some classes use technology to increase student engagement and promote critical thinking. For example, the management team adopted a software program called *Virtual Leader*, which allows students to experiment with different kinds of management approaches and to see the results and implications in a feedback-rich environment. The communication team furnished its classrooms with equipment to digitize student speeches. These recordings are made available to students via Blackboard®, so that they can critique their own work and faculty can more easily provide feedback to them.

Many of the approaches center upon bringing students into the discipline as it is actually practiced. The chemistry and biological sciences teams have replaced traditional process-oriented laboratories with inquiry-based ones that help students *do* science, from designing experiments in teams to creating detailed analytical write-ups.

Theater faculty redesigned a traditional theater-appreciation course into one focused on how and why theater is practiced. Students experience theatre by attending performances, meeting with key faculty after the performance to discuss what they have seen, shadowing theater productions in progress and—as a culminating project—working in breakout sections to create their own theatre pieces. Some Top 25 courses—for example, psychology—make use of trained undergraduate discussion leaders. This strategy provides more engaged learning for the students in the courses and develops in the discussion leaders skills associated with effective teaching.

In programs where many different faculty members teach the redesigned class (communication, statistics, and mathematics), faculty autonomy is supported by allowing individual faculty members to choose options from a broad array of activities and approaches. For example, communication faculty developed a central Blackboard® site that included a set of web-based modules, activities, exercises, assignments, and other student-engagement and inquiry-based learning options. Although different sections emphasize different approaches, when some approaches are found to be particularly effective, all faculty teaching the course adopt the innovation. The central site has allowed these courses to continue to evolve over time. More detailed descriptions of all the course-redesign projects can be found at http://www.units.muohio.edu/celt/engaged_learning/top25/.

Preliminary Outcomes

Early evidence indicates that the Top 25 project is making significant progress toward its goals of increasing student engagement and improving critical-thinking skills. Surveys of students in Top 25 courses show statistically significant gains in class activities that move students toward intellectual independence. (Note: Some questions on our survey were taken from the National Survey of Student Engagement [<http://nsse.iub.edu/>] and used with permission of the authors.)

For example, students report an increase in the frequency of assignments that require combining course ideas to build their own understanding and in assignments that helped them learn to think in new ways. They also report a decrease in how important it is to their learning that they spend most of class time listening to the instructor lecture. These results indicate that students are moving from a self-concept as receivers of knowledge to seeing themselves as participating in its construction.

Responses to other survey questions show that the Top 25 courses are promoting active, engaged learning. Compared to students in the traditional sections, students in the redesigned sections report

- More frequently discussing ideas from class with others outside of the classroom,
- Spending much more time working with other students on projects during class time,
- Spending less time memorizing facts and ideas, and
- Spending more hours on their course work and working harder than they thought they would to meet faculty expectations.

Top 25 courses also have more emphasis on higher-level thinking skills. Compared to students in the traditional sections, students in the redesigned sections report more frequently

- Supporting their ideas and beliefs with data or evidence;
- Making judgments about the value of information, arguments, or methods by examining how others gathered and interpreted data and assessing the soundness of their conclusions;

- Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships; and
- Working on a project or paper that requires integrating ideas from various sources.

A more detailed report, with the complete scale items and the effect sizes, can be found at the Top 25 Project website pointed to above.

Significantly, students in Top 25 classes show evidence of understanding the transformation that is occurring. At the end of the introductory theatre course, for example, students were asked to describe how the course was or was not “student-centered” and did or did not use “inquiry-based learning.” The quotes below provide compelling evidence of students who are beginning to take charge of their own learning.

- “We took learning into our hands, set our own goals, and explored our own ideas. There was no definite answer; we had to investigate and figure it out for ourselves.”
- “We were trusted with class time to lead our own learning for the day.”
- “We had to think for ourselves and see other people’s perspectives.”
- “The instructor helped us think through issues without telling the answer. He made us *want* to think.”

One of our primary goals has been to increase student critical-thinking skills. We worked with teams to define what critical thinking means in their disciplines and developed rubrics to assess those skills, based on models from the Washington State University FIPSE project on critical thinking and on Wolcott’s Steps for Better Thinking rubrics (Condon & Kelly-Riley, 2004; Lynch & Wolcott, 2001). These work very well for some disciplines, but for others, such as theater and economics, we have had to create something different.

Each semester we have collected sample student work from a subset of the Top 25 courses, and the Assessment Fellows have examined the papers using the critical-thinking rubric created by the disciplinary faculty. For a few courses, the Assessment Fellows are not used because the critical thinking in the papers is so tied into the complexities of the discipline that non-experts cannot judge them. In those cases, a team of faculty in the discipline has assessed the papers. As this is a formative assessment process, the results are provided to teams for course-improvement purposes only and are not publicly available by course. We are pooling the data across classes and will do an overall analysis once we have multiple rounds of data for most classes.

The results of the assessment are used by the departmental redesign teams to clarify the instructor’s expectations for critical thinking, to modify the assignments to require more critical thinking, and to provide more support in areas in which the students are weak. As a result, assignments continue to improve, and faculty are being much more intentional about teaching critical-thinking skills. Faculty and students strongly believe that those skills are improving,



Because the redesigned courses are creating new expectations among students, they are now arriving in class expecting to be challenged and ready to take more responsibility for their learning.

although the evidence that we have collected thus far, while encouraging, is not yet sufficient to conclude statistically that this is true.

Perhaps the most important result of the project has been evidence of the type of culture change that we aspired to create, not only among faculty and students in the redesigned courses but throughout the curriculum. In a recent survey of faculty teaching the redesigned classes, the vast majority of respondents indicated that the Top 25 project influenced how they taught their other classes. Survey data also indicate that our non-redesigned sections are beginning to catch up to the elevated levels of student engagement and critical thinking in the redesigned sections. Three semesters ago, there was a large initial gap between redesigned and original sections on answers to key survey questions focused on engagement, such as the importance of memorizing facts and ideas and the frequency of asking questions or contributing to class discussion. There was also a significant gap on several items related to critical thinking, such as the frequency with which students were asked to support their ideas and beliefs with data and evidence or were asked to make judgments about the value of information, arguments, or methods. However, over the past three semesters, that gap has narrowed substantially.

We believe that this is due, at least in part, to the team structure of the projects and to other faculty-development efforts by CELTUA to support engaged learning. Seminars and workshops on active and inquiry-based learning that are provided for Top 25 participants are often open to the entire faculty, further spreading innovations to those outside the project. Faculty members hear about the techniques being used in the redesigned sections and incorporate some of them into their own courses. Additional evidence for culture change comes from anecdotal reports by Top 25 leaders that other faculty have requested to teach the redesigned sections faster than initially planned.

The visibility of the Top 25 project and its support at the highest levels of the university have encouraged faculty and staff to develop or expand programs that support student

engagement and the student-as-scholar model. For example, the First Year Research Experience (FYRE) program has been established to offer incoming students an opportunity to engage in research and to establish early contact with a faculty mentor. It also offers support to the faculty participants, who may only have worked with seniors in research previously, in creating meaningful experiences for first-year students.

We have received additional reports from faculty that reinforce the survey data indicating that student culture is shifting. Twelve of the fifteen common core courses that all business majors must take are Top 25 courses. A team member from one of these reports that because the redesigned courses are creating new expectations among students, they are now arriving in class expecting to be challenged and ready to take more responsibility for their learning.

Other Top 25 faculty report fewer student complaints about workload, even though the redesigns typically require more student effort than traditional courses. In the survey of faculty teaching the redesigned classes, respondents overwhelmingly reported that student learning, critical thinking, and student engagement with the material have all increased compared to traditional sections of the classes.

Finally, we are beginning to see the impact of Top 25 courses on student performance in higher-level courses. Marketing department faculty who teach upper-level classes, for example, have reported that since the redesign of the marketing core course (one of the first Top 25 courses), they have observed that students in their classes

- Are more willing to take risks,
- Are thinking collaboratively,
- Are more capable of analytical thinking,
- Display more imagination, and
- Are more willing to come to the instructor with questions

These results from student perceptions, faculty perceptions, and objective evaluation of student work all point towards positive change and show the substantial impact that the cultural transformation caused by the Top 25 Initiative is having.

LESSONS LEARNED

What does it take to create successful institutional curricular change? Perhaps most importantly, we believe that such change cannot be accomplished in piecemeal fashion. It takes broad-based structures, as well as the flexibility for different departments and disciplines to find the model that works best for them.

In order to be successful, faculty members also need several layers of institutional support in everything from purchasing or creating items that are needed to redesign courses (relevant software, for instance) to assessment techniques that help them succeed by providing feedback. We cannot overstate the importance of assessment and feedback: They need to be ongoing for at least the three to four years it takes to fully implement change. They are key to generating a cultural shift.



Administrative support is important as well. Engaging students actively in their learning is significantly more work for faculty than lecturing, especially in the early implementation of these changes. Faculty are excited about the increase in student learning but are understandably concerned about how much this increases their workload and about the risk of an initial drop in course evaluations.

So chairs, deans, and provosts need to communicate to faculty that the additional effort they put into teaching will be rewarded and not adversely affect their chances for promotion and tenure. A presidential-level initiative such as this provides a much-needed coherent and pervasive message that this work is valued. The institutional commitment to the Top 25 Initiative was underscored when funding for the program continued in the face of significant budget cuts at the university. In other words, this transformation was not optional.

Many departmental teams have enthusiastically pursued the redesign process. However, the spreading adoption of engaged-learning teaching techniques that we have observed has in some cases been achieved only with a great deal of effort and persistence on the part of the project leadership in the face of some faculty skepticism. The flexibility for departments to choose their own redesign models has been vital to mitigating that skepticism.

Change has not been easy for students either. Engaged and inquiry learning requires more effort from them, just as it does from faculty. It takes more work to come to class prepared to analyze problems instead of to passively listen to a lecture. Thinking is work. An institution-wide effort such as the Top 25 project, however, can make it clear to students that such expectations are not idiosyncratic to an individual teacher or course; rather, they are broad expectations for *all* Miami University students. Students often also need support to develop the skills required by these courses. Faculty report that moving the task of acquiring low-level information outside of class represents

a challenge for students who lack skills in the close reading of texts or who don't know how to listen to a recording for information rather than entertainment. Faculty also report that students need help to learn how to make group work an actual collaboration. International students may have special challenges if the expectations of the Top 25 class do not align with their previous educational experience in their home countries.

LOOKING FORWARD

Clearly, the Top 25 Program has ignited change in the ways students learn and faculty teach at Miami University. Sustaining these advances and helping them grow further pose important challenges that must continue to be addressed.

Perhaps most obvious is the turnover of faculty, teaching assistants, and departmental leadership. New instructors and TAs have to become proficient in the new pedagogies, and there is some potential for instructors to be less enthusiastic about a model that was developed by others. Summer training sessions have been adopted by multiple departments to address this challenge.

The current financial challenges faced by our institution, like most other universities, pose problems as well. The bulk of the initial funds went towards supporting faculty time for the development of the new approaches, and that support has been phased out as the class redesigns have been launched and revised. However, there are some ongoing support expenses involved.

For example, software such as the *Virtual Leader* program used in management will need to be updated as new versions come out, and computer-based data-acquisition equipment that allows students to do inquiry-based labs in chemistry will wear out. These items must be built into departmental and university budgets. There is also concern that increasing class size could undermine the ability to emphasize significant engagement with other learners during class meetings and to assign a lot of writing.

While these are all ongoing challenges, we will continue to spread the model of engaged students taking responsibility for their own learning and discovery of knowledge. The classes directly involved in the program have reshaped student and faculty perceptions and expectations about education, and the expansion of these

“Assessment and feedback...need to be ongoing for at least the three to four years it takes to fully implement change. They are key to generating a cultural shift.”

approaches outside the formal Top 25 program framework is an important priority.

The sharing of ideas both formally and informally among faculty, the new readiness by students to invest more time and energy in their classes, the enthusiasm over the early successes, and the launching of related new initiatives contribute towards an evolving and expanding culture of student engagement throughout the university. The role of assessment continues to expand too as we evaluate student success in line with the changing expectations of the workforce and society. Continuous improvement requires a stream of feedback, and university assessment initiatives are expanding to meet this need.

The Top 25 project is a successful institution-wide implementation of a shared and intentional approach to engaged learning focused on the largest lower-level courses. Its success comes from a process that was designed from the beginning to build on the university's strengths and engaged a critical mass of faculty and staff who have learned together and then shared their experiences with colleagues. The result is a measureable shift in culture and enhanced student learning outcomes that go well beyond the classes targeted in the formal program.

We look forward with great anticipation to the continued evolution of a dynamic learning and discovery environment that engages students inside and outside the classroom. 

RESOURCES

- American Association of Colleges and Universities. (2010). *Raising the bar: Employers' views on college learning in the wake of economic downturn*. Retrieved from http://www.aacu.org/leap/documents/2009_EmployerSurvey.pdf
- Barr, B., & Tagg, J. (1995). From teaching to learning: A new paradigm for undergraduate education. *Change*, 27(6), 13–25.
- Condon, W., & Kelly-Riley, D. (2004). Assessing and teaching what we value: The relationship between college-level writing and critical thinking abilities. *Assessing Writing*, 9(1), 56–75.
- Hasselbein, F. (1999, Spring). The key to cultural transformation. *Leader to Leader*, 12, 6–7.
- Hodge, D. C., Baxter Magolda, M. B., & Haynes, C. A. (2009). Engaged learning: Enabling self-authorship and effective practice. *Liberal Education*, 95(4), 16–23.
- Lynch, C. L., & Wolcott, S. K. (2001). *Helping your students develop critical thinking skills* (IDEA Paper #37). Manhattan, KS: The IDEA Center. Retrieved from http://www.idea.ksu.edu/papers/pdf/Idea_Paper_37.pdf
- Twigg, C. A. (2003). *Improving learning and reducing costs: Lessons learned from Round I of the Pew Grant Program in course redesign*. Center for Academic Transformation. Retrieved from <http://www.thencat.org/PCR/Rd1Lessons.pdf>

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