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## Foundations for learning: The impact of redesigning introductory courses

Last year, the Chancellor charged the Retention and Timely Graduation Task Force with developing recommendations that would encourage students to stay at KU and reduce the time it takes them to complete their degrees. The Task Force made ten recommendations, including promoting awareness of the challenges associated with retention and timely graduation, increasing student engagement, redesigning courses, and tracking student learning systematically and developing effective ways to evaluate and document student progress.

In this issue of *Teaching Matters*, we'll explore some ways that faculty and instructional staff members can redesign courses to promote deeper learning and help students advance in their career goals.

One example is Paul Atchley's development of an online

orientation for psychology majors (pages 4–5). Atchley's analysis shows that students who completed the orientation demonstrated a remarkable increase in their knowledge of psychology as a major and their ability to plan their program.

Another example is Angela Lumpkin's work in her introductory sports management course (page 6). Lumpkin wanted students to develop better writing skills, as well as broaden their understanding of possible career paths. She blended the two objectives and created integrated, sequential assignments. The result? Students are making significant progress toward both goals.

These examples illustrate that taking a fresh look at a introductory courses can bring us closer to meeting KU's retention and graduation goals.

—Judy Eddy, CTE

This is a challenging time for American higher education as we operate under two pressing constraints. On the one hand, we would like to offer a curriculum that graduates more students in four years and most within six. On the other, we are reminded by government, accreditation agencies and now the popular press that we need to guarantee higher levels of knowledge, skill and understanding in those students we graduate. Resolving these possibly conflicting requests is a high priority for our academic leaders, and it is likely to play a larger role in the way we carry out our courses.

These are not new pressures on us, though public attention to them is relatively recent. Years ago a colleague from another university told me about physics and engineering faculties who asked for new money to teach calculus courses for their majors. The faculty claimed students who finished the math department's calculus sequence were unprepared for entry-level science and engineering courses. They were losing time teaching math that was nominally covered in pre-requisite courses, and they wanted to teach those courses more effectively.

When the dean's office inquired, the math faculty were already aware of the issue. Their internal data indicated that a student who received a C in the first calculus course

had less than a one in five chance of passing the second one. They used partial and extra credit to pass students whose work was poor, and they did so because the administration criticized the department if their failure rate was high. It was not acceptable for one department to be a barrier for completion of so many other majors that required math courses as pre-requisites.

The story points out the critical importance of foundation courses. We presume that first and second year students learn to write well, engage in critical reading of narrative and evidence, and approach unfamiliar problems with flexible solution strategies. Those critical skills and knowledge ready them for more sophisticated activities in advanced courses. The context for this conversation is different now, however, because it is no longer acceptable to allow only the very best students to enter advanced levels of our fields. We are expected to find a way to teach the fundamentals of our field so that most students can learn enough to succeed in the major they choose. Adjusting the passing point on a curve is not a satisfactory solution, as eventually that would reveal our lowered standards.

We are challenged to identify and adopt different forms of teaching than most of us have enjoyed, both as students and as teach-

ers. Lectures work well with audiences that know a lot already, and the format seems relatively indifferent to class size: 400 can listen as well as 40, so both our comfort and our business model point toward teaching foundation courses largely by presentation. And further, the lecture method typically generates a normal curve of performance, providing ready evidence for grades that differentiate the best learners from the rest.

There exist thoroughly researched teaching practices that combine active learning and intensive writing with the flexibility of online activities. Even in large sections, many of these methods do a better job of preparing that grand middle of each class, helping those C students really learn material and not just occupy the middle of a disappointing curve. In the best case, these approaches move the information transfer out of live class time, making it possible for faculty to engage students with application

of ideas and connection to other courses and to meaningful aspects of their lives.

What we have yet to figure out, as a community, is how we make room in the overfull lives of faculty for the learning and delivery of those new forms of teaching. Building a broad foundation of knowledge, skills and understanding among a wide range of our students will ultimately help achieve our shared goals of retention and timely completion. Using that foundation to approach complex problems is exactly the kind of learning our critics claim we are not producing, so they should be as pleased as we will be. All we need to do is find the will to teach our large surveys with an eye first toward building the foundation and only second toward sorting students into differentiable piles. Aye, there's the rub; are we ready to embrace that change in how we view our teaching and students' learning.

### Kris Bruss joins CTE as Faculty Fellow for Spring 2011

CTE is pleased to announce that Kris Bruss, communication studies, will serve as a Faculty Fellow this semester. Kris helped facilitate CTE's Best Practices Institute the last two years. This spring, she will lead new faculty programs and help develop an e-mentor program, to begin next fall.



### Making students collaborators in their own success

Paul Atchley, Psychology

What does it mean to improve student success? Higher retention and graduation? Increased understanding of course goals and improved learning? Better prospects for a job and long-term happiness? I would argue it is all of these. To achieve these things, we must start working with students outside of the classroom at the start of their college experience (or maybe even before) using new models of teaching and learning.

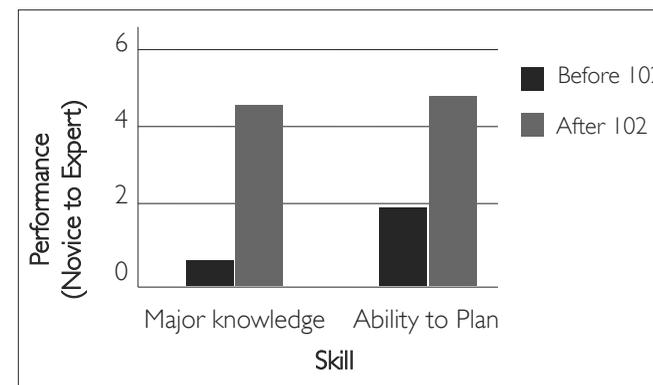
The Department of Psychology developed a course to directly address career planning and development, but data indicate that course also has the potential to impact the first two issues as well, making it a potential model for other campus units. PSYC 102 (Orientation Seminar in Psychology) is a mandatory one-credit, pass/fail, online course (via Blackboard) designed for students interested in the psychology major.

The course requires students to work with material covering their own goals, the goals of the major, and preparation for success after college. By the end of the course,

students develop a portfolio in which they consider their own goals, plan their major (including experiences outside of KU such as volunteering, service learning and scholarships, as well as options in the department other than classes, such as research), and plan how their college experience will support post-graduate or career goals.

I knew I would teach the course as an overload to hundreds of students each semester. Therefore, I designed the course to be manageable but meet the goals of improved understanding of the major and careers, so students could make better choices in and after college. To assess if it works, I recently collaborated with a group of undergraduates to analyze student self-assessments taken before and after the course. We looked at students' knowledge of the major and ability to develop course and career

plans. The results were striking. As shown in the figure, students went from low novices about the major to near experts. We saw a similar effects for planning (improving from



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high novice to near expert). In the analysis, every one of the 81 students sampled improved, suggesting PSYC 102 has met the intended goals for almost all of the 1451 students who have taken it since Spring 2007. Students better understand what they need to do to graduate and prepare for the future. This was achieved without an overly large faculty burden (after development, which did take considerable time).

For freshmen taking this course (or even pre-enrollees taking the course before they arrive on campus via KU Continuing Education), it means that they will have a better idea of what courses they need to take, when they should take them and, perhaps more importantly, *why* they should be taking the courses. Years of doing senior exit

interviews made it clear to me that our students often have no idea why they are taking the courses they take, nor how the courses will improve their own chance of success. A contextual course like PSYC 102 across a range of majors or academic units can provide this understanding, and engage students as collaborators in their own success, instead of customers buying a product they are not sure how to use. As one student said “I feel like I am in control of my future for maybe the first time. I have goals, and I know how to achieve them.”

Editor’s note: For more information about this project, see [www.cte.ku.edu/gallery/visibleknowledge/atchley2/index.shtml](http://www.cte.ku.edu/gallery/visibleknowledge/atchley2/index.shtml)

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### Civil Discussions workshop to be held March 29

On Tuesday, March 29, CTE will host a special workshop on “Civil Discussions: Facilitating Positive Interactions in the Classroom.” It will be held in 135 Budig Hall from 3:00–4:15 PM.

The workshop will focus on ways faculty and instructional staff members can tap into the Interactive Theatre Troupe, which was launched to encourage civil discourse around issues that may be controversial or sensitive in nature. The interactive theatre

format allows individuals to experiment with different strategies, interventions and approaches to become more comfortable in facilitating civil and productive conversations in the classroom. You’ll see the troupe in action and learn how you can access this campus resource for teaching.

Faculty members, instructional staff and GTAs are welcome. No registration is required. If you have need more information, contact CTE at [cte@ku.edu](mailto:cte@ku.edu) or 785-864-4199.

## GOOD WORK

### Writing toward career exploration in an introductory course

Ann Martinez, CTE

In her introductory health, sport and exercise sciences course, Angela Lumpkin structures the class around writing. By doing so, Lumpkin is trying to address two different needs she sees resurface in her students every year. As she explains, “The genesis for the changes in my class goes back to concerns that I have about students’ writing abilities. The class is designed for freshmen and sophomores who are thinking about majoring in sport management. They’ve already had one or two freshman writing classes, and what they bring with them is the view that they don’t like to write, and they are resistant to any writing expectations.” She adds, “As I started thinking of changing this class to try to emphasize [improving their writing], I was also overlaying the goal of them trying to figure out what they want to be when they grow up. I thought I could kill two birds with one stone: help students work on their writing skills and help them explore options in sport management.”

Lumpkin designed four sequential, interconnected writing assignments. The first is an interview in which students find someone who works in the career they are interested in, writing a report on what they learned afterward. For the second assignment, students research the steps needed to

get to their ideal career path, presenting their findings through a written report. Their third paper is heavily research based, leaving the fourth one to be a reflection on what they have learned about their career choice.

Between each of the four key assignments, and, in some ways, acting as a bridge between these, students revise and revise. The revised component of the old paper becomes a part of the new paper, the beginning of it, to be precise. This happens after students have met for peer review, so that in the end they are getting feedback on their writing from both their classmates and Lumpkin.

Many students have said to Lumpkin that they feel their writing has improved. But that’s not the only benefit. After their research many students want to change career plans. “About half a dozen change [every semester]. They say, ‘Oh, after I interviewed this person I found it wasn’t at all what I thought it would be, and now I’m going in a different direction.’ I hope that this year I will broaden their perspective with the resources I give them. They need to know what else is out there.” In her class, they will be writing their way toward that knowledge.

For more about this project, see [www.cte.ku.edu/gallery/visibleknowledge/lumpkin](http://www.cte.ku.edu/gallery/visibleknowledge/lumpkin)

## Seven research-based principles for smart teaching

In a recently published book titled *How Learning Works*, Susan A. Ambrose and her co-authors introduce a set of key principles underlying learning, from how effective organization enhances retrieval and use of knowledge to what impact motivation. The principles provide teachers with an understanding of student learning that can help them see why certain teaching approaches are or are not supporting learning, develop or refine strategies that foster learning, and transfer and apply the principles to various courses.

- 1. Students' prior knowledge can help or hinder learning:** If prior knowledge is accurate, it provides a strong foundation for new knowledge; if not, it can interfere with learning.
- 2. How students organize knowledge influences how they learn and apply what they know:** Students make connections between pieces of knowledge. If those connections form accurate knowledge structures, students are better able to apply understanding; if not, students can fail to apply it appropriately.
- 3. Students' motivation determines, directs and sustains what they do to learn:** When students find positive value in a learning activity, expect to achieve a desired learning outcome, and perceive support for learning, they are likely to be motivated to learn.
- 4. To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned:** As instructors, it's important we are aware of elements that lead to mastery, in order to help students learn more effectively.
- 5. Goal-directed practice coupled with targeted feedback enhances the quality of learning:** Learning and performance are best fostered when students engage in practice focused on a specific goal, target an appropriate level of challenge, and practice frequently and sufficiently enough to meet the performance criteria.
- 6. Students' current level of development interacts with the social, emotional and intellectual climate of the course to impact learning:** A negative climate may impede learning, but a positive one can energize learning.
- 7. To become self-directed learners, students must learn to monitor and adjust their approaches to learning:** Students improve their effectiveness as learners when they engage in metacognitive processes to monitor and control their learning.

From Ambrose, S. A., et al. (2010). *How learning works*. San Francisco: Jossey-Bass.

## Schedule includes classroom testing, student survey of teaching

CTE's upcoming workshops and lunch discussions are listed below. No RSVP for most sessions. All will be held in 135 Budig. Faculty, instructional staff members and GTAs are welcome. For more information, contact us at [cte@ku.edu](mailto:cte@ku.edu) or 785.864.4199.

### Engaging Students Through the Learning Studio—February 24, 12–1 PM

How faculty and instructional staff members can use the Learning Studio for teaching, research and learning. NOTE: Lunch provided; RSVP [sbarker@ku.edu](mailto:sbarker@ku.edu) by 2/22.

### Improving Student Success with an Online Orientation Course—February 28, 12–1 PM

A tour of an online course designed to increase program completion and improve student success after graduation.

### Organizing Data from the Student Survey of Teaching—March 7, 12–1 PM

Learn what information various groups (peers, chairs and deans) need from the survey, as well as effective ways to organize it.

### Civil Discussions: Facilitating Positive Interactions in the Classroom—March 29, 3–4:15 PM

How to tap into the Interactive Theatre Troupe, which was launched to encourage civil classroom discourse around issues that may be controversial or sensitive.

### Teaching Graduate Seminars—March 31, 12–1 PM

Are there ways to deepen graduate students' learning? We'll explore that question and suggest some answers.

### Universal Test Design: Making Classroom Tests Fair for All Students—April 4, 3–4 PM

Classroom tests can be designed to be accessible (fair, useful, valid) to all students, whether English is not their first language, they have a disability, or some other trait that is unrelated to whatever the test is supposed to measure. Learn guidelines for designing assessments that promote universal accessibility.

*Teaching Matters* is published by the Center for Teaching Excellence. We welcome your comments and suggestions. Upon occasion we invite the submission of articles of special interest to the academic community.

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