

Teaching Matters

News & Information from CTE

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Degree-level assessment, department grants awarded

CTE has honored and supported department/unit work on teaching this year via two avenues.

At the annual Student Learning Symposium on March 4, the Speech-Language-Pathology MA program received the 2016 Degree-Level Assessment Award. Sara Rosen, interim provost and executive vice chancellor, and Stuart Day, acting senior vice provost for academic affairs, presented the award to Holly Storkel, chair of the Department of Speech-Language-Hearing: Sciences and Disorders.

The University Academic Assessment Committee selected the SLP program, describing it as one of the strongest assessment plans in practice among graduate programs. In particular, the committee was impressed with how SLP uses assessment data to “close the loop,” thereby making assessment work for the good of the program rather than simple compliance.

Earlier this academic year, CTE’s advisory board awarded three Department Teaching Grants. Recipients were:



Holly Storkel (center) accepts the Degree-Level Assessment Award for the MA Speech-Language-Pathology program, presented at the Student Learning Symposium. Photo Doug Ward.

- Classics—\$5,000 for a project to create hybrid formats for introductory courses in ancient Greek and Latin
- Political science—\$2,500 to design and implement a program for graduate students to develop their professional identities
- Spanish and Portuguese—\$2,500 renewal for a project to assess and improve students’ oral communication skills

Watch for more information about these projects at the KU Summit, to be held Aug. 18.

— Judy Eddy

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Why and how to gather evidence of student learning

Andrea Greenhoot
CTE/Psychology

Most university teachers have wondered whether they are pitching courses at the optimal level for their students, or have been surprised when a class performs far below expectations on a test or major assignment. The reason this happens is that student understanding is not always visible to teachers. We cannot see changes happening inside students' heads, so instead we have to look for evidence of their understanding and skill development.

Gathering evidence of student learning, and organizing instruction around it, can lead to highly effective and efficient teaching. When we have information about what students can do well and *not* so well, we can move past material that students have already mastered, use instructional time and assignments to target the right levels of difficulty, and then observe whether those adaptations are improving students' learning. This strategy can also help us identify and respond to changes over time in our students and their preparation.

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So what sort of student-learning evidence might we use to guide our teaching? Some evidence is informal and rather obvious; for instance, blank or quizzical looks during class time and student questions can reveal topics that need to be revisited in some way. But the absence of such indicators is by no means a guarantee that students have acquired a deep understanding, particularly when they have not had a chance to reflect on or try to use the material, or when indicators are offered by only a few students.

Instead of relying solely on informal indicators, we can build in more systematic opportunities to generate meaningful evidence through the use of activities, assignments and rubrics that quickly and clearly reveal which student skills or concepts need further support.

Below are some suggestions for how you can harness existing features of a course (or develop new ones) to gather evidence of your students' learning:

In-class learning activities. In-class learning activities such as cooperative problem solving, worksheets, or discussions are not just for deepening student learning; they can provide immediate information about students' prior beliefs, skills, or understanding of course concepts.

Walk around the room and visit with students while they are working, call on different groups or individuals to share their responses, or use a student response system (e.g., clicker, online polling system) to gauge understanding in a broad spectrum of students, rather than rely on feedback from a handful of students who ask or respond to questions. In response to this immediate feedback, you can either move through course material rapidly or revisit particularly difficult points, or even modify plans for the next class.

Pre-class (or in-class) assignments. Student work on assignments produced before or during class helps students reflect on course material and prepares them for class discussions, but it can also guide plans for the next class period.

Review students' pre-class assignments—such as responses to focus questions or blog posts about reading material, online reading quizzes, or problem

sets—to reveal areas of student competence and difficulty and inform what you should emphasize during class time. Many online quizzing systems include a dashboard that provides a visual synopsis of student performance on questions so you can quickly see what students have already mastered versus where they are struggling. Similarly, group products or brief in-class writing assignments or reflections (e.g., minute papers, muddiest point) can be reviewed after class to see where students are and adjust pacing and content of subsequent material.

If you do not want adjustments to take up class time, consider uploading extra materials (e.g., readings, videos, mini tutorials, recorded mini-lectures) to address student misunderstandings on a course website and ask students to review them before the next class period.

Tests and long-term assignments. Course planning can also be informed by student performance on formal writing assignments and exams. Tests, papers, and projects can all be mined to reveal where students are struggling, providing the opportunity to target those areas in the next unit or in course refinements in subsequent semesters.

Dividing a large project into a series of assignments or learning activities can help students progressively build the requisite

skills, while providing you information about where students need additional support. Given that success on a cumulative final project depends on successful completion of each step, these opportunities for intermediate feedback and intervention should increase the number of students who successfully complete a task. You could even explicitly use each stage as a gatekeeper for the next stage; students are not allowed to go on in the sequence until they have successfully completed the previous work.

Using rubrics to evaluate student mastery of skills involved in an assignment also helps you and your students determine which components need more support. If students exhibit difficulty on one or two rubric dimensions, you could add more guidance or preparation for those skills when you next teach the course.

Teaching driven by student learning is a simple and effective solution to the question of how faculty can adapt to the rapidly changing landscape of higher education, both in terms of the student populations and the tools available for teaching. For more information about this approach, visit our website at cte.ku.edu.

News In Brief

CTE will host the annual **Poster Session and Reception** from 3:30 to 5:30 p.m. in The Commons at Spooner Hall on Friday, May 6. Teaching projects completed by participants in the C2I Learning Consortium and the 2015 Best Practices Institute will be featured. Posters will illustrate course transformation strategies and ways that KU faculty are using high-impact teaching practices.

CTE welcomes **Stephanie Becker** as program manager for the Trestle grant, an NSF-funded project to implement and study a model to enhance science, technology, engineering and mathematics education at seven universities. Becker earned her Ph.D. from the speech-language-pathology department in 2014, has taught several courses for that department, and has significant research experience with SPLH and special education.

CTE's advisory board awarded **Teaching-Related Education and Travel (TREAT) funding** to three faculty and instructional staff members: Matthew Burke, Jennifer Harrison, and Krzysztof Kuczera. In addition, 11 faculty and instructional staff members were chosen for CTE's annual **Best Practices Institute**, to be held in May: Cécile Accilien, Ali Brox, Hui Cai, Yvonne Chen, Corey Maley, Uma Outka, Brad Osborn, Colin Roust, Paul Scott, Irina Six, and Elaina Sutley. Abbey Dvorak was chosen as the BPI alum facilitator.

To flip or not to flip? That is *not* the question

Daniel Hirmas
Geography

Chances are that you've heard of recent efforts to redesign courses to promote active learning. When faculty members discuss active learning, the conversation naturally turns to *flipped* classes. The term "flip" comes from the notion of taking a traditional lecture format—where students receive information passively from the instructor and then work actively on assignments on their own time—and reversing or flipping it such that the passive transfer of information is done on a student's own time (through required readings, video lessons or online tutorials) and the in-class time is reserved for active and engaged learning.

There is a mountain of research in education, cognitive psychology and other disciplines to show that a well-designed flipped class significantly increases learning. Despite this evidence, faculty members offer several common objections to this teaching model. These include the difficulty getting students to learn material on their own time, student resistance to active learning in the classroom, the increase in the amount of grading, the need for in-class support from teaching assistants, and the need for a physical classroom to facilitate the kind of instructor-student interactions needed to make this model suc-

cessful. There are many teaching strategies to mitigate many of these objections. Nonetheless, these concerns are authentic and, certainly, not every class can or should be flipped.

We might ask then, what principle of the flipped model should be common to well-taught courses at KU? The answer to that question is *backward design*.

A well-designed flipped model works precisely because it is well designed. That is, the specific

The real question is whether our courses are well designed.

goals of the course are clearly articulated, the desired evidence that students have achieved those goals is identified, and the instruction/learning activities for the course are planned in light of the goals and desired evidence. Backward design is the process of designing a course or unit in this order. The term "backward" is used because the order of this process is exactly the reverse of how many courses are, in practice, designed. A new instructor will often start course planning by using the exercises or lectures that they learned the material from, instead of first considering and articulating clear goals for students.

A flipped course works because both the out-of-class exercises and the in-class activities are highly focused to achieve the clearly stated course goals. The activities also allow instructors of flipped courses to obtain the evidence that they need to evaluate their activities and adjust them either on the fly or across multiple iterations of the course. This creates well-designed courses that use in-class time effectively to maximize student learning.

As the title of this article gives away, the question of whether to flip or not to flip a course does not get at the central issue about which we should concern ourselves. The real question is whether our courses are well designed. Only after applying the process of backward design can we assess whether a flipped format will help our students achieve the goals we set for them.

Three milestones on the first steps of a teaching journey

Jacob Fowles

Public Affairs and Administration

Last spring, I was honored to receive my school's award for classroom teaching. Providentially, I am surrounded by accomplished teachers who have inspired and guided me in the first steps of my journey, and they deserve much of the credit for my growth.

Over my last six years at KU, I have learned a number of useful things about the art and science of teaching. Here, I've tried to distill that down to a few points, taking an "if-I-knew-then-what-I-know-now" perspective. I hope that these reminders are useful to you, wherever you are in your career.

Don't reinvent the wheel.

I was fortunate that my KU position was previously held by a friend from graduate school who, for personal reasons, left academia. On day one I found a filing cabinet filled with classroom materials, including the syllabi and assignments he had developed for the courses I would teach. My syllabi have evolved and now don't look much like the first version I used. But having my colleague's work to build upon was invaluable in helping me make informed decisions about course content.

Experiment, systematically documenting your successes and failures. One of my biggest "a-ha" moments was listening to CTE's previous director, Dan Bernstein, talk about his approach to course

development, which was rooted in the principles of experimental design and the scientific method. As somebody trained in the social sciences, this made perfect sense to me. Absent a rigorous evaluation, how would I ever know if the changes I implemented in the classroom were successful? Later, I realized that the biggest difference that adopting this mindset made was that it freed me from a fear of failure. Following the scientific method does not mean that your hypothesis will always be proven correct—the new assignment you designed may not work as you expect. But it does mean that, whether a particular experiment succeeds or fails, your effort contributes useful knowledge that will make you a better teacher in the long run. Recognizing this fact helped me contextualize my inevitable missteps and, most importantly, prevented them from undermining my development.

Don't be afraid to talk with your students about pedagogy.

In my first semesters, much of my thinking about teaching was focused on how to firmly establish myself as the classroom authority and expert—not just in the subject matter I was teaching, but also with respect to teaching itself. I was afraid that discussing pedagogy with students would threaten my credibility. Since

then, I've found the opposite to be true. Overwhelmingly, students are willing to endure pedagogical experiments when they understand what they are designed to accomplish. For example, my program prepares students for careers as administrators in the public and not-for-profit sectors. In these careers, students need to tolerate uncertainty and ambiguity and see them as preconditions for collaboration and creativity. As such, I intentionally do not micro-manage the classroom in a way that removes the opportunity to develop these non-cognitive skills. Nobody likes uncertainty. But I've found that students are more likely to trust and even embrace my approach when it is accompanied by an explicit discussion of the growing importance of non-cognitive skills for workplace success. Fortunately, my classes often have a few mid-career students who can validate my references to the empirical literature with real-world experiences.

Teaching is an evolving practice, and I still have much to learn. In fact, I've yet to hang the plaque I was awarded on my wall, because I'm confident that a clerical error will eventually reveal that it was awarded to me erroneously. Either way, I'm grateful for the guidance and support that I've received at KU.

The paradox of evidence-based teaching

Doug Ward

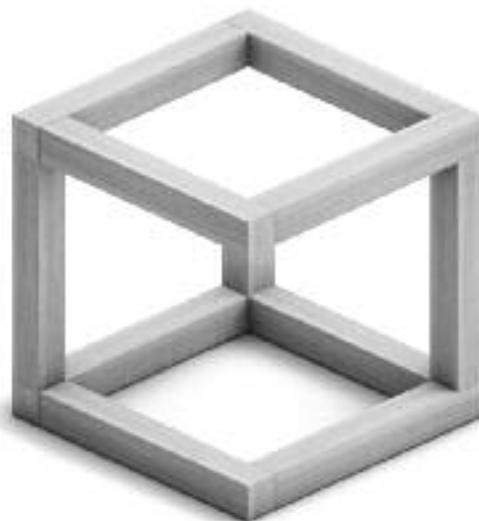
CTE/Journalism & Mass Communications

The spread of evidence-based teaching practices highlights a growing paradox: Even as instructors work to evaluate student learning in creative, multidimensional ways, they themselves are generally judged only through student evaluations.

Students should have a voice. As Stephen Benton and William Cashin write in a broad review of research, student evaluations can help faculty members improve their courses and help administrators spot potential problems in the classroom.

The drawback is that too many departments use *only* student evaluations to judge the effectiveness of instructors, even as they submit faculty research through a multilayered evaluation process internally and externally. Student evaluations are the only university-mandated form of gauging instructors' teaching, and many departments measure faculty members against a department mean. Those above the mean are generally viewed favorably and those below the mean are seen as a problem. That approach fails to account for the weaknesses in evaluations. For instance, Benton and Cashin and others have found:

- Students tend to give higher scores to instructors in classes they are motivated to take, and in which they do well.
- Instructors who teach large courses and entry-level courses tend to receive lower evaluations than those who teach smaller numbers of students and upper-level courses.



- Evaluation scores tend to be higher in some disciplines (especially humanities) than others (like STEM).
- Evaluation scores sometimes drop in the first few semesters of a course redesigned for active learning.
- Students have little experience in judging their own learning. As the Stanford professor Carl Wieman writes: "It is impossi-

ble for a student (or anyone else) to judge the effectiveness of an instructional practice except by comparing it with others that they have already experienced."

- Overemphasis on student evaluations often generates cynicism among faculty members about administrators' belief in the importance of high-quality teaching.

Looked at through that lens, we have not only a need but an obligation to move beyond student evaluations in gauging the effectiveness of teaching. We simply must add dimension and nuance to the process, much as we already do with evaluation of research.

So how do we do that?

At CTE, we have developed a rubric to help departments integrate information from faculty members, peers, and students. Student evaluations are a part of the mix, but only a part. Rather, we have tried to help departments draw on the many facets of teaching into a format that provides a richer, fairer evaluation of instructor effectiveness without adding onerous burdens to evaluators.

For the most part, this approach uses the types of materials

that faculty members already submit and that departments gather independently: syllabi and course schedules; teaching statements; readings, worksheets and other course materials; assignments, projects, test results and other evidence of student learning; faculty reflections on student learning; peer evaluations from team teaching and class visits; and formal discussions about the faculty member's approach to teaching.

- mentoring students, and providing evidence of learning
- sharing their work through presentations, scholarship, committee work and other venues

Departments can easily adapt the rubric to fit particular disciplinary expectations and to weight areas most meaningful to their discipline. We have already received feedback from many faculty members around the

Benton, Stephen L., and William E. Cashin. "Student Ratings of Teaching: A Summary of Research and Literature," IDEA Paper 50, the IDEA Center. <http://ideaedu.org>

Wieman, Carl. "A Better Way to Evaluate Undergraduate Teaching," *Change Magazine*, January-February 2015. www.changemag.org

We have not only a need but an obligation to move beyond student evaluations in gauging the effectiveness of teaching. We simply must add dimension and nuance to the process, much as we already do with evaluation of research.

Departments then use the rubric to evaluate that body of work, rewarding faculty members who engage in such approaches as:

- experimenting with innovative teaching techniques
- aligning course content with learning goals
- making effective use of class time
- using research-based teaching practices
- engaging students in hands-on learning rather than simply delivering information to them
- revising course content and design based on evidence and reflection

university. We've also asked a few departments to test the rubric as they evaluate faculty members for promotion and tenure, third-year review, and post-tenure review, and we plan to test it more broadly in the fall.

We will continue to refine the rubric based on the feedback we receive. Like teaching itself, it will be a constant work in progress. We see it as an important step toward making innovative teaching more visible, and toward making teaching a more credible and meaningful part of the promotion and tenure process. If you'd like to be part of that, let us know.

How CTE supports faculty and teaching staff

CTE provides funding to individual faculty and instructional staff members, faculty teams, and departments/units on the Lawrence campus through these programs:

Best Practices Institute—

Participants who complete this program receive a \$1,000 instructional fund that can be used for materials, travel, or hourly help for any teaching project.

C21/Trestle Mini-Grants—

Part of KU's course transformation initiative, these grants support greater use of student-centered, evidence-based teaching practices. Work on a single course can be supported up to \$1,000; work that cuts across two or more courses can receive up to \$2,500.

Teaching-Related Education and Travel (TREAT)—

This fund provides up to \$1,250 for faculty and instructional staff to participate in conferences and workshops on teaching.

Department Teaching Grants—

Departments/units that are developing teaching initiatives can get awards up to \$5,000. See page 1 for information about this year's recipients.

How your support of CTE improves teaching

CTE donors help improve teaching on the Lawrence campus through their support of these Endowment programs:

Teaching-Related Education and Travel (TREAT)—

As described at left, this program provides funds for faculty and instructional staff members to participate in teaching conferences and workshops. Recipients do not have to be presenters at workshops—just active participants.

Bernstein Award for Future Faculty—

This program recognizes a KU graduate student who has approached his or her teaching as inquiry into learning. The award provides \$500 to a graduate student who is nearing the end of a doctoral degree and who will pursue a career in academia.

In addition to these, CTE hopes to establish a general Endowment fund to support a broad range of teaching projects.

If you would like to contribute to any of these funds, please contact Judy Eddy at jeddy@ku.edu, or donate online at www.kuendowment.org/cte.

Teaching Matters is published by CTE, and edited by Judy Eddy. We welcome your comments and suggestions.

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