

Teaching Matters

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Teaching outside the box has risks as well as rewards

In research and scholarly work, most faculty members strive to be innovative or creative, and these qualities are highly valued by our institutions and disciplines. In teaching, however, innovation and experimentation can feel like risky pursuits.

Institutions of higher education tend to reward efficiency in teaching over innovation, and many faculty feel constrained by conventional course structures, scarce resources for innovations, and concerns about what will happen if a new strategy does not go over as planned. Yet the potential upsides of teaching “outside the box” are significant: enhanced student engagement and learning, more intellectually engaged students who are better prepared for life and work beyond the university, and a more rewarding and meaningful teaching experience for the faculty member.

The need for teaching outside the box is perhaps greater than ever. As Debra Humphreys, Heather McCambly, and Judith Ramaley note in a new AAC&U



Andrea Greenhoot leads a CTE session. Photo Doug Ward.

report titled *The quality of a college degree: Toward new frameworks, evidence, and interventions*, “The current environment, characterized by an increasingly competitive global economy, certainly presents a compelling mandate for increasing student success in terms of both the numbers of students attaining college degrees and the

levels of learning they acquire in earning those degrees” (7).

“Levels of learning”—that’s the key, isn’t it? To reach the student population that we now have in our classrooms, approaching teaching as a creative endeavor may be the best path for us and for our students.

—Andrea Greenhoot & Judy Eddy

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How do we teach outside the box?

Andrea Greenhoot
CTE/Psychology

Recent developments such as new technology, more flexible class scheduling and spaces, and a profusion of research on high-impact teaching practices are making it less daunting to be creative in our teaching. Here are five suggestions for teaching outside the box:

Be imaginative about when, where, and how your class meets.

To illustrate, hybrid courses, in which face-to-face class meeting time is reduced and replaced by additional out-of-class (typically online) time, can accommodate higher student enrollment while simultaneously “shrinking” the classroom during face-to-face time. Instead of one section of 90 students, an instructor could split a class into two sections of 45 to establish a more personal atmosphere or implement activities that would be more challenging in a larger class, while maintaining the same total number of class meetings. This structure could also be implemented on an informal and occasional basis to facilitate spe-

cific learning experiences; e.g., one week half the class completes an online or out-of-class assignment, while the other half participates in a hands-on workshop or field trip, and students switch roles the next class period.

As another example, accelerated learning through intersession or minimester classes can allow for even greater creativity by preceding and/or following the accelerated piece with highly engaging experiences like field work, project-based learning, or even a study-abroad experience.

Consider alternatives to examinations. One interesting trend that emerged among participants in the C21 course redesign consortium last year was the development of creative alternatives to examinations for assessing student understanding. Faculty like Mike Vitevitch (pp. 4–5) replaced final exams with integrative final projects that deeply engaged students in their own learning. Research on student learning has

shown that assessment is the dominant influence on students’ distribution of time, and coursework assignments tend to promote more consistent and less superficial learning efforts than exams. Indeed, exams are actually much poorer predictors of subsequent performance than graded coursework assignments.

Give students a real, human reason for their coursework.

Finding ways for students to connect learning to life—such as service learning, situated or authentic or professionalization assignments, and creating products for “real” audiences—can increase motivation and deepen learning. All these approaches place students in real or realistic situations where they use knowledge and skills learned in their course to help someone else. Take advantage of local resources, such as the Center for Civic and Social Responsibility or Center for Community Outreach, as well as the abundance of new user-friendly technologies (e.g., developing public blogs, or creating, editing and posting video), to create meaningful coursework assignments that look and feel more like “real,” professional work.

Connect with colleagues, especially in different disciplines.

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Just as participating in intellectual exchange about research can challenge us to think in new ways, intellectual discourse about teaching can support creativity and innovation in instruction.

lence us to think in new ways, intellectual discourse about teaching can support creativity and innovation in instruction. Take advantage of opportunities to learn from different perspectives and experiences that colleagues from various disciplinary areas bring to the table. Many faculty members report that some of their most exciting and fruitful teaching innovations are generated by conversations with teachers from very different fields.

Address student buy-in and assess the efficacy of innovations early and often. Consider at the outset of your course how you will frame student expectations. Be transparent about your expectations for student behaviors and how students can succeed in your course, as well as the reasoning

behind your pedagogical choices. Use early or mid-semester surveys, online reflective journals, in-class clicker questions, or minute papers to identify student concerns and find out what students believe is most helpful. But if you collect feedback, be sure to also share with the class the results and your approaches for addressing their concerns. If student resistance does arise, explore the reasons for their concerns. Often it is not the new method itself, but the implementation of it, or something else. Finally, acknowledge students' perspectives and explicitly address the concerns; remind students of the reasons for your pedagogical choices, and help them see they are not for your own purposes but to try to improve their learning.

Greenhoot awarded \$2.3 million NSF grant

The National Science Foundation has awarded a grant for over \$2.3 million to Andrea Follmer Greenhoot, CTE director and professor of psychology. Greenhoot is leading a multi-university project that will both implement and study a model to enhance science, technology, engineering and mathematics education at seven universities. The goal of the project is to expand adoption of empirically validated instructional methods that improve learning for both STEM and non-STEM students in higher education.

Participating institutions will test adaptations of the model on their campuses. Project partners are the University of Colorado at Boulder, University of British Columbia, University of Texas at San Antonio, Indiana University, University of California at Davis, and Queens University in Canada.

The core approach is to support "embedded expertise" in STEM departments to catalyze course transformation and build intellectual communities within and across institutions to share in the development of course reform.

News In Brief

Next spring, CTE will again offer its **Peer Triad** program. Five faculty members will lead triads; each will focus on one of these topics:

- Developing flipped classes
- Designing research methods courses
- Teaching non-majors courses
- Helping students understand abstract ideas
- Building students' problem-solving skills

Faculty interested in the program are also welcome to identify their own topic.

Triad participants will meet about five hours during the spring semester to collaborate on their teaching questions.

To participate in the program, attend the Kick-Off on Dec. 2, noon to 1 p.m. at CTE, or contact Judy Eddy at jeddy@ku.edu.

In September, CTE held its second conference for the **Collaborative Humanities Redesign Project**, funded by a \$215,000 grant from the Teagle Foundation. CTE and its partners (Elon, Park, and Rockhurst universities) are identifying ways to enhance engaged learning in the humanities.

Marta Caminero-Santangelo and Dan Hirmas were named CTE Faculty Fellows this fall. Camerino-Santangelo, professor of English, and Hirmas, associate professor of geography and atmospheric science, joins Faculty Fellows Caroline Bennett, Chris Haufler, Mark Mort, Meagan Patterson, and Amy Rossomondo.

Guerrilla lessons for a final exam

Michael Vitevitch
Psychology

For several years I have been part of a team that has been redesigning PSYC 104, General Psychology, turning this traditionally large (about 1000 students), lecture-based class into a hybrid course. In the hybrid approach, students are quizzed on fundamental concepts online, then meet in person in smaller sections (about 50 students) where topics from the textbook that proved to be challenging are explained further, or to engage in activities to more deeply learn about a given concept. Although we have been using the non-traditional hybrid approach for some time, including the honors version of the class that I teach, we continued—for a number of very good reasons—to use a traditional pen and paper final exam.

However, during finals week in fall 2014, I attended Paleocon at The Commons, and I began to question the need for a traditional exam. Paleocon was a final project event for Geology 121, DNA to Dinosaurs: Prehistoric Life, organized by Kelsey Bitting, a geology teaching post-doc. Student teams presented posters on various course topics. I was impressed by the diversity of projects and demonstrations, each showing clear influences of the disciplines represented by the team members. What most impressed me about

Paleocon, however, was how much students learned from doing the posters. Seeing that got me thinking about how much information can actually be tested in a traditional final exam.

At the same time I was engaged in discussions with colleagues at the University Honors Program about what made an honors class different from the non-honors version of the same class. Often the honors class was simply *more*—more material, more assignments, more pages for the final paper—than the non-honors version of the same class. Surely there was another way to define *different* than simply *more*.

As these two lines of thought began to mingle in my mind, the obvious solution emerged: why not do an “alternative” final in my honors section? At first I resisted the idea. I think those scary emails we get from the Provost’s office about final exam policies and procedures made me think there was something sacred about the final exam. But as the idea floated around my head a little more, I began to see it as a unique opportunity to make my honors section *different* instead of simply *more*.

For the alternative final, I decided to test that old adage about teaching being the best way to learn by allotting 10 to 15 minutes to nine teams, each with five students. Each team had to teach—in an engaging way—a specific learning objective from one of the chapters covered in the course. A straight-up lecture was forbidden. Instead, teams were expected to develop an activity similar to exercises I was doing during our in-class meetings to address their learning objective. Given the irregular nature of this assignment, I took to calling the exercises that the students were developing *guerrilla lessons*. The short amount of time each team was allocated meant they needed to get in, get out, and teach us before we realized we were learning something.

Shortly after spring break, I allowed students to self-organize



TEAM INSIGHT: (left to right) Jasmine Hitt, Philip Wood, Cody Ptacek, and Alexander Gabrielli. Not pictured: Ryan Crist.

into teams. During the remaining part of the semester I allocated some class time for students to get together in their teams and de-



Using insight to make an origami swan

cide which learning objective they wanted to focus on, and figure out how they might teach that learning objective. I would circulate from team to team to offer advice and suggestions. Most teams also met outside of class time, especially as finals week approached.

The alternative final exam was held during our regularly scheduled exam time, but we changed our location to The Commons. Students received two grades for their final: I assigned one grade based on how well the presentation addressed the learning objective that the team selected (feel free to contact me for the rubric that I used); the other grade was assigned by each team member to assess the extent to which the other members of the team contributed to the presentation.

I believe everyone in attendance—myself, the students, and several members of C21—would agree that the best guerrilla lesson

came from Team Insight (see p. 4), who focused on this objective: distinguish insight from observational learning. At the beginning

of their lesson, team members asked the class for the definition of each term while they handed out 8-by-8-inch squares of paper to everyone. They then asked the class to use insight to fold their paper into an origami swan like one displayed in a still-photo on the screen. After giving the class a few minutes to



Using observational learning to make a swan

make some of the ugliest ducklings I'd ever seen, the teachers then asked the class to use observational learning—watch a video that provided step-by-step instructions—to fold an origami swan, resulting in most members of the class folding perfect specimens. The teachers then concluded by eliciting from the class other instances where learning

by insight might be useful and other instances where learning by observation might be useful. In this very simple exercise students in the class demonstrated their ability to distinguish learning via insight from learning by observation—and everyone had an origami swan to prove it!

I was quite pleased by the alternative final exam consisting of guerrilla lessons. Students doing the teaching clearly demonstrated that they had acquired their selected concept. (They also learned how tough it is to teach without lecturing!) By requiring students to teach in a way that engaged everyone, I was also able to see evidence that the rest of the class had understood the concepts as well.

Many faculty and departments across campus are redesigning various courses (or parts of courses). In addition to redesigning courses,

maybe it's time we think about redesigning the final exam, too.



Results of using observational learning (left) and insight (center and right) to make an origami swan. All photos Doug Ward.

Making space for active learning

Doug Ward

CTE/Journalism & Mass Communications

New classrooms in Wescoe, Anschutz, Stauffer-Flint, LEED2, and Self and Oswald halls offer great potential for active learning.

They make collaboration and hands-on assignments easier with such things as flexible furniture, ample whiteboards, and various digital accoutrements. Many more such rooms are planned, but the process is frustratingly slow for instructors who want to try new approaches to teaching.

Modern rooms certainly make active learning easier, but creative thinking can help overcome at least some of the obstacles of inflexible, old-fashioned rooms. So if you can't get a spot in one of the new rooms, consider one of these options:

Move the furniture. Active learning is often messy, even chaotic. It doesn't take place in nice, neat rows. So move the furniture into configurations that allow students to face one another, talk and collaborate. That alone can make a big difference in the atmosphere of a class.

Change your thinking. Large lecture halls are the most inflexible spaces of all, but instructors like Jennifer Roberts in geology and Mark Mort in ecology and evolutionary biology have found

ways to use them for active learning. They give students problems to discuss in small groups and use clicker questions to assess understanding. They and their teaching assistants move throughout the room and help students solve problems and complete assignments. That alone makes large classrooms seem smaller while engaging students in active learning.



Divide class time. If your class meets twice a week, consider having half the students meet one day and half meet the other day. That would open up the room and make group activities easier. It would require that at least some classwork be moved online or at least out of class, but keep in mind that seat time alone doesn't translate into learning.

Use giant sticky notes. They aren't as easy as whiteboards, but they can serve much the same function.

Have students use their phones. Services like Sli.do and

Poll Everywhere make it easy to set up mobile-friendly polls for in-class interaction. Twitter can provide a backchannel for discussions. OneNote makes it easy to share notes, files, images and other class material. Apps of all types allow students to easily create multimedia assignments.

Improvise. A couple of years ago, students asked me repeatedly to move out of a dreadful classroom that drained their energy and desire to learn. So we began meeting in smaller groups in the libraries, in the Kansas Union, at the Underground and anywhere else we could find a space. It wasn't always easy, but students were much happier, and so was I.

Ask students for suggestions. Explain the benefits of active learning to students and have them brainstorm ways to use it in your class. You may be surprised.

Those are just a few ideas. Active learning works, but only if instructors take action first.

We'd love to hear the creative ways you've used to make your classes more active and to help students learn.

Considering Kelly's *Teaching History in the Digital Age*

Benjamin Guyer
CTE/History

In *Teaching History in the Digital Age*, T. Mills Kelly seeks “to challenge historians, but also others teaching in the humanities and social sciences, to think carefully about the ways that digital media are changing teaching and learning” (p. 12). Over five chapters, Kelly combines the descriptive with the prescriptive, and ranges across topics as diverse as the history of modern historical pedagogy (ch. 1), information literacy (e.g., how to see who owns a website, ch. 2), and the ethics of digital publication (ch. 5). Many of Kelly’s examples come from his own teaching experience. This makes his arguments approachable and his proposals thought provoking.

Kelly observes a disconnect between daily immersion in the digital world—an immersion shared by most faculty with nearly all students—and pedagogical strategies that marginalize digital resources in favor of traditional print media. Like many if not most historians, Kelly recognizes that a “pedagogy of scarcity,” defined by a lack of easily available historical sources, is “gone forever” (pp. 26, 27). However, citing a survey of 4,540 North American historians by the American Historical Association in 2010, Kelly notes that barely half reported using digital resources in their

classroom, even though nearly 70% reported using the same in their own research (pp. 102-3). Would it not make more sense to teach the profession as it is actually practiced?

None of this amounts to an argument that word searches should simply replace reading. In chapter three, Kelly points out that “a text-mining algorithm” will miss a wide range of cultural nuances (p. 74); after all, it is one thing to use a term, and quite another thing to identify its place in a larger cultural lexicon. Patience, exploration, and focus are still required on the part of students. Kelly merely argues that the best forms of pedagogy will spend less time *telling* students about these digital tools and more time *enabling* students to use them.

One question might therefore be raised. Kelly shows that online resources can be creatively and ef-

fectively incorporated into the classroom, but he spends little time considering the content found in a database like JSTOR—namely, one journal article after another. Although we should teach students how to do digital searches, they will still have to sit down and read through the results of their respective queries. How, in an age of texts and tweets, do we help students develop skills so thoroughly anterior to the digital age? Sustained discussion of this would have been welcome.

Regardless, this book is a worthy addition to any library concerned with contemporary pedagogy and the use of digital resources, whether or not one is a historian.

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Four critical teaching questions and possible answers

At the annual Teaching Summit that kicked off the fall semester, several KU faculty members led Generate sessions. These were focused on critical teaching questions, and session participants identified new and innovative approaches toward each question. Here are some highlights from the discussions:

How can we foster student motivation?

1. Relate material to students' lives and interests
 - Make these connections visible to students
 - Explain why knowledge is valuable, why tasks or assignments are worthwhile
2. Give students ownership of their own learning
 - Make students responsible for peers' success (study groups, team projects, peer review, other forms of collaborative learning)
 - Require post-test analysis: students reflect on their preparation process, when they turn in an assignment and after they receive their grade
 - Have students write responses to readings or generate their own class discussion questions
3. Listen to students and ask for their perspectives

Can teaching be fun, for us and for students?

1. Identify the boundary between doing something fun/engaging and how students are learning
 - Keep course goals uppermost in mind
 - Identify key points to work into an activity
 - Offer an alternative for students uncomfortable with the activity
2. Think outside the box
 - Give students an exercise based on incorrect facts; let them learn from the errors and discover how to detect questionable material

Can we re-envision graduate education?

1. Recognize challenges in graduate education
 - Competitiveness of academic job market
 - Alternative academic preparation
 - Integrating new and old skills and knowledge
2. Embrace collaboration
 - Seek input from colleagues
 - Develop collaborative relationships with resources: CTE, CODL, Libraries, Writing Center
 - Create a program-wide professional seminar that focuses on job skills for various positions
3. Consider course redesigns for graduate classes, including hybrid or online courses

How can we best approach sensitive issues?

1. Avoid assuming what topics may be difficult for students
2. Set the tone: acknowledge that a discussion may result in discomfort, and that is OK
3. Give students time to reflect and prepare for a large group discussion
4. Allow room for agreeing to disagree
5. Bring a broad scope of literature or research into the conversation, not just personal experience or opinion
6. Continually bring the discussion back to ideas, as opposed to focusing on individuals

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

KU Center for Teaching Excellence
1455 Jayhawk Blvd., Room 135
Lawrence, KS 66045-7573
785-864-4199
cte@ku.edu
www.cte.ku.edu
