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Teaching Notes

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Recommended Web sites: Teaching Tips

The following sites provide teaching tips on a variety of topics, such as course planning, preparing a syllabus, developing assignments, assessing student work, communicating with millennial students, how people learn, and dealing with stress.

Eastern Kentucky University: Teaching Tips

<http://tlc.eku.edu/tips/>

University of California, Berkeley: Tools for Teaching

<http://teaching.berkeley.edu/bgd/teaching.html>

University of Hawaii: Teaching Tips

<http://tinyurl.com/HawaiiTeachingTips>

University of Virginia: Teaching Resource Center

<http://tinyurl.com/VirginiaTeachingTips>

University of Waterloo: Teaching Resources

http://cte.uwaterloo.ca/teaching_resources/index.html

An Evaluation of Online Learning

The United States Department of Education recently released a report, *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. Researchers conducted a systematic literature review from 1996 through July 2008 of studies that compared student learning outcomes in online instruction versus face-to-face instruction. They located 176 studies that provided comparisons and further narrowed the list down to 51 comparisons within studies that met standards for calculating an "effect size" (a measure of the average difference in the outcomes among the groups in each study). Most (44) of these studies involved college-age or adult learners. The researchers indicated that: "Learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction, with an average effect size of +0.24 favoring online conditions." This result is equivalent of moving the average student's performance in the course from the 50th percentile to the 59th percentile. The results were stronger when instruction combined both online and face-to-face instruction (effect size of +0.35 compared to face-to-face instruction).

To read more about this study's methodology, conclusions, and caveats, visit:

<http://tinyurl.com/USDoE2009OnlineLearning>

PEER: Project for Encouraging Excellence through Review

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In *Assessing Faculty Work: Enhancing Individual and Institutional Performance*, Braskamp and Ory (1994) describe faculty peer review of teaching based on observation as "especially useful in a continuous program of instructor and course improvement" (p. 204), two perennial goals of the annual, promotion, and tenure review processes at Kennesaw State University. More specifically, Cohen and McKeachie (1980) note that peers are most competent to evaluate 10 aspects of teaching:

- Mastery of course content
- Selection of course content
- Course organization
- Appropriateness of course objectives
- Appropriateness of instructional materials (e.g., readings, media)
- Appropriateness of evaluative devices (e.g., exams, written assignments)
- Appropriateness of methodology used to teach specific content areas
- Commitment to teaching and concern for student learning
- Student achievement, based on performance on exams and projects
- Support of departmental instructional efforts

Given these views and the lack of either a formal process or culture within the English Department to encourage or guide faculty peer review, we began working to establish a voluntary faculty peer review program entitled PEER: Project for Encouraging Excellence through Review in spring 2008. The program promotes three kinds of review: (1) formal, summative reviews resulting in letters that may be included in a T&P portfolio; (2) formative reviews intended as a means of improving an instructor's pedagogy; and (3) learning observations, occasions for sharing ideas and techniques equally between colleagues.

In harmony with KSU's Assurance of Learning initiative, the project's main goal was and continues to be to improve student learning by improving faculty self-awareness, teaching abilities, and departmental collegiality. Engagement in peer review also helps faculty supply evidence of their teaching performance for the purpose of annual, tenure, and promotion reviews, as recommended by the 2008-2009 *KSU Faculty Handbook*.

Methods and Participants

In September 2008 at an English faculty meeting, we introduced our colleagues to the three types of peer review (summative, formative, and learning) and shared guidelines and protocols we had developed for conducting reviews in a substantive, professional, and credible fashion. We

encouraged our colleagues to review (and modify as they saw fit) the observation forms we made available on the department website. We also recommended that they recruit an observer with whom they felt comfortable, though we made ourselves available to facilitate that process and to observe in colleagues' classes. In addition, we invited our colleagues to participate in short, IRB-approved, anonymous, online pre- and post-participation surveys that would reveal their insights and experiences as they engaged in peer review; we planned to use data from these surveys to better understand faculty perceptions of the value and experience of peer review of teaching and, thereby, to enhance the effectiveness of the program.

Findings: Faculty Expectations Prior to Engaging in Peer Review

Although we are confident that many of our colleagues engage in peer review of teaching and of instructional materials, only three faculty members agreed to participate in our study. All three completed the pre-participation survey before engaging in the peer review process as subjects of observations of their teaching. All three were non-tenured, tenure-track assistant professors, and they selected the following long-term goals as they prepared for their peer review experience:

- To learn from a colleague whose teaching methods are effective
- To get advice about my teaching methods
- To get advice about my teaching materials
- To enhance collegiality
- To improve student learning
- To strengthen teaching within my department
- To acquire evidence of effective teaching for the annual review
- To acquire evidence of effective teaching for promotion and tenure

Survey responses indicated that our participants already perceived peer review to be valuable before they engaged in the process. The following represents two comments:

Peer review should be a primary method of assessment; student review should be the secondary method. Peer review has more value to the professor and the department because it comes from people who usually have more general life experience and much more experience with the subject matter of the course and the intricacies of pedagogy. Many college professors, such as myself, have little or no experience with those Education courses which teach teachers how to teach --- if there are such courses.

I think it is a facet of teaching effectiveness that is too often overlooked at this level. It is far easier for someone outside your classroom to be more objective, and it is more informed on many levels than student feedback; it adds a much needed layer to the process.

Participants also reported the sense of value they placed on peer review in higher education for the larger community:

It creates a safety net for the students who otherwise have little recourse for course improvement.

If only individuals strive to improve their teaching, the whole department and its programs does not evolve, which results in a few outstanding teachers and many potentially mediocre ones. A stronger department has outstanding teaching strengths in all of its faculty.

Findings: Faculty Perceptions After Engaging in Peer Review

Two of the three initial participants completed the post-participation survey and indicated that they had had a positive experience with peer review. They also provided feedback that will allow us to improve the program and our communication of its goals and purposes in its second year.

Both participants reported that the program helped them to achieve their goals both in terms of collegiality and in reflecting on and assessing their teaching performances:

In order to prepare for the observation, my awareness of the design and purpose of the course content was heightened. It was an opportunity to open my class to an experienced peer reviewer and solicit feedback about my teaching and learning. It was also encouraging to have another professional observe my teaching style and strategies. I was appreciative of the time spent before and after the peer review, discussing plans, debriefing the experience, etc. So often teaching is a bit isolating, so it was nice to have a colleague to talk to about the entire experience. I was grateful for the chance to explain my goals for the students, the lessons, the curriculum, and so forth. I particularly appreciated the care that my reviewer demonstrated by listening to my ideas, reviewing the plan, sharing her observations of the student responses, and helping me flesh out ideas for the activities.

I think Peer Review is an excellent idea. Although I like to hear student reactions to my courses, we don't always share the same goals, and sometimes students don't fully grasp what goes into teaching. A colleague, however, knows exactly what is going on, and I received valuable advice from professors who had taught the kinds of courses I was teaching at KSU.

When asked to describe how the peer review experience failed to meet their expectations, one participant claimed that it was "far more helpful than ... anticipated," while the other participant expressed some concern with the three types of review:

I found the procedure somewhat complicated. I don't really think we need three types of peer reviews. When I asked colleagues to participate, they expressed the same confusion I felt when I initially explored the set-up. A simplified procedure might draw more participation.

Both participants reported that they plan to participate in peer review again, noting the benefits of meeting before and after the observation to debrief, as well as the benefits of having “concrete evidence of teaching effectiveness.” And in response to a prompt asking how their perception of peer review has changed as a result of participating in it, one participant noted, “It’s not as hard as it looks,” while the other participant noted the value of peer review in developing innovative teaching methods:

I think it’s a wonderful way to share our teaching expertise and gather new ideas to improve. I think this is more valuable than I expected because the experience made me reflect more acutely about my class, the course, the students, and the particular innovation I was trying out in the classroom. In fact, since careful risk taking (an oxymoron?) is encouraged in order to improve teaching and learning, peer review is an effective counter balance to ensure careful attention to innovative and creative teaching.

In addition, this participant also noted the potential benefits of recruiting an observer from outside the subject’s teaching discipline:

I was thankful that my peer reviewer is an experienced professional who was highly familiar with the course I was teaching. In my view, that’s important, although I can see value to having someone peer review who is from a different program or discipline. As so many have said, we don’t necessarily see what is, we see what we are. So, I think it’s important to have an experienced and respected peer reviewer who doesn’t have any type of political or personal agenda.

Finally, one of the participants chose to respond to a prompt on the value of peer review in higher education for the larger community. This participant expressed support for the process in terms of collegiality and professionalism within the department:

If peer review were common practice, I think the department would function better as a community. Our department is so large and there are individuals who create divides rather than connections. I have also observed disrespect toward our students and toward faculty being chided for perceived lack of knowledge or courtesy. I would like to see more professionalism in the department and I think the peer review process might be the way to accomplish it, to some extent.

Discussion and Goals for Year Two

Although we struggled to attract participants to our study, we feel strongly that members of our department do engage in peer review—although somewhat covertly and informally—fairly consistently. For example, in addition to observations of teaching, peer review can also include the sharing and review of teaching materials, as well as discussions about teaching experiences and the soliciting and offering of teaching advice. We would like to help make these interactions more explicit and purposeful. As one of our participants noted, teaching can be isolating; it can also

feel competitive. Promoting a culture of peer review—in whatever form it takes—across the department would, we hope, encourage faculty members to seek out and generously provide feedback, support, and ideas from and for their colleagues.

As we consider the feedback from our participants, we have several goals for 2009-2010. First, we need to clear up some misconceptions about our role in the peer review process. Although the surveys didn’t indicate this, we found in our informal discussions with colleagues that many were under the impression that we were the only faculty members who could be asked to observe teaching. This was never our intention. Faculty members can recruit any observer with whom they feel comfortable. In addition, one of our participants noted confusion with the three forms of observation. Our intention was to describe and create protocols for three types of review based on participants’ purposes and goals for engaging in peer review. We can work to simplify either the process or our explanation of it.

Finally, in order to continue to promote a culture of peer review within our department, we plan to facilitate an English Hour in which we invite our participants (including members of our group who have engaged in peer review) to share their experiences, insights, and perceptions of peer review with the larger faculty.

References

- Braskamp, L. A., & Ory, J. C. (1994). *Assessing faculty work: Enhancing individual and institutional performance*. San Francisco: Jossey-Bass.
- Cohen, P. S., & McKeachie, W. J. (1980). The role of colleagues in the evaluation of college teaching. *Improving College and University Teaching*, 28 (4), 147-154.

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Assessing How Students Learn

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In higher education the dominant mode of assessment is to measure what students have learned in a course or program. By measuring what students learn educators can monitor student progress, determine learning gaps and gains, and document achievement.

But measuring what students learn is of limited use if our goal is to improve their future performance. It is akin to taking a person’s temperature. You may learn the individual has a fever but the measurement produces no insight into the cause. Suppose we find that students score in the 60th percentile on a standardized test or that half the students in a course have significant writing problems. What should we do to improve future performance? Unfortunately, the assessment data provide little direction. The result is a kind of guesswork by which we consider alternative teaching

practices or programs without understanding how or why they would work better than standard approaches.

To reduce the guesswork we need assessment that reveals how students learn-how they interpret and make sense of the subject, where they stumble, what they do when they do not understand the material, how they respond to different instructional practices, and so on. Understanding the basis of student performance can help us identify appropriate teaching practices or approaches.

A compelling example of this form of assessment is the Berkeley calculus project which took place more than 25 years ago. At the time there was a large disparity between the performance of African American students and other students in introductory calculus at UC Berkeley. About 40 percent of African American students received grades of D or F in calculus compared to about 5-6 percent of Caucasian and Asian students. Concerned about the disparity, mathematics educator Uri Treisman decided to explore the problem by focusing on how students learn. He wanted to understand

. . . how students actually learn calculus. Do they use the textbook? With whom and why do they discuss homework assignments? What do they do when they get stuck on a problem?-the really basic questions about how students learn mathematics. (Uri Treisman's Dolciani Lecture)

Treisman observed 40 students (20 African American and 20 Chinese American) as they went about studying and learning calculus. He was able to identify key differences in the ways that successful and unsuccessful students tried to learn mathematics. For example, Chinese students formed study groups outside of class and devoted their time to the most difficult material rather than simply reviewing the mathematics they already knew. They compared solutions, tested one another, and talked through difficult concepts. The African American students also invested a lot of time studying calculus, but did it alone. Only two ever studied with classmates.

Based on a detailed understanding of these patterns, Treisman established a program to alter the way students learned calculus in the course. It included, for example, "honors sections" of the course in which small groups of students worked on particularly challenging mathematics problems. The program addressed each obstacle that had been uncovered by observing the students. After the changes were fully implemented the percentage of D and F grades for African American students dropped to 4 percent, a stunning improvement. (See a contemporary version of the project at Emerging Scholars Program.)

A large scale study like the Berkeley project is not a practical option for most teachers. However, assessing how students learn can be integrated with classroom teaching. Teachers can scale down to examine how students learn during a single exercise, assignment, or class period, or focus on how they learn a specific concept, skill, or ability. (See the Carnegie sponsored project, Strengthening Pre-collegiate Education in Community Colleges www.carnegiefoundation.org/programs/index.asp?key=26.)

Consider several methods accessible to most classroom teachers.

Observations of Student Learning. As the venerable American philosopher Yogi Berra put it, "You can observe a lot just by watching." What better way to explore how students learn than to observe them engaged in learning during a class period? Teachers can do this during class discussions, group work, active learning exercises, online chat or discussion forums. Better yet, instructors can do periodic observations of student learning in one another's classes and then meet to discuss their findings.

Think Aloud. The think aloud is a procedure during which students say out loud what they are thinking while working on a task. Think aloud pair problem solving involves student pairs, in which one student acts as problem solver, the other as listener. The instructor circulates among the pairs to observe students thinking aloud as they work on an assigned task.

Lesson Study. In lesson study several instructors jointly plan, teach, observe and analyze student learning in the context of a single lesson. As one member of the group teaches the lesson, the others observe students and collect evidence of their learning. Lesson study allows instructors to observe the interaction between instructional activities and student learning during an entire class period. (See examples of lesson studies by instructors at University of Wisconsin campuses at College Lesson Study Project.)

Strategies that probe the learning process offer close up views of students grappling with new material, engaging in complex thinking and responding to instruction in the classroom. For example, when asked to explain social behavior college students tend to rely on a single dominant factor such as a person's upbringing or a personality trait. Psychology instructors at the University of Wisconsin-La Crosse used lesson study to explore ways to move students beyond these everyday theories of behavior. They designed a lesson in which students produced more varied and comprehensive explanations consistent with discipline-based models of behavior. But exposing students to the "correct theory" and engaging them in more complex theorizing did not change their minds. As one student said, "There may be all these other factors but I still believe the way you act depends on what kind of person you are." The episode prompted the instructor to develop sets of mini-cases in which students used psychological principles to explain behavior in "real life like" situations throughout the course.

College teachers are aware of gaps in student learning as a result of routinely grading their students' work. Encouraging teachers to assess student learning as it takes place in the classroom can help them answer questions about how and why the gaps exist. Assessing how students learn can lead to the kind of information we need to make decisions about how to improve teaching and learning.

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