



A Self-Grading Case Study

To most faculty, undergraduates assigning their course grades sounds preposterous. But that's exactly what happened in a large (240 student) general education class. Now, the content of course was hardly conventional: History of Creativity in the Arts, Science, and Technology, a course with the principle objective of developing student creativity. It was the content and goal of the course that motivated its instructors to opt for an equally creative approach to grading.

Here's how it worked. Throughout the semester, students were graded on their quizzes, exams, and projects in the traditional manner by the instructor. At the end of the course, after the final exam but before course grades were assigned, each student met with one of the course's teaching assistants to discuss his or her grade. During that meeting the TA and the student reviewed all the student's grades and totaled the points earned in the course. Students were also told how this points total positioned them in relation to the rest of the students in the course. For example a student with 480 points was told she placed 47th highest of the 240 other students in the course. Finally students were told that they might be asked to meet with the professor depending on the grade they gave themselves. After the meeting students were given a self-evaluation sheet which they used to help determine their grades. (A copy of this sheet appears at the end of the article referenced below).

After completing the sheet, students assigned themselves a grade and returned the self-evaluation sheet to the TA who discussed the reasoning behind the grade. Self grades were then compared with grades that would be assigned based on a traditional curve system. So long as the

self grade fell within one full letter grade of the points-based grade, the student assigned grade was given. So if the points-based grade was C+, students could assign themselves any grade from D+ to B+. If the grade was more than a full letter grade different, they could be asked to meet with the instructor to discuss their grade.

To ascertain how the self-grading affected students, the same students continued in this course for a second semester. The type of assignments remained the same, only this semester, the instructor assigned course grades as well grades on the individual assignments. Students completed a survey comparing the two experiences.

Student motivation was significantly impacted by the self-grading experience. Almost 53 percent agreed or strongly agreed that "self-grading made them more motivated to learn." (p. 54) This compared with almost 36 percent who felt the practice had no effect on their motivation and almost 12 percent who thought it negatively impacted their motivation. For almost 47 percent this motivational impact continued after the class with that group agreeing or strongly agreeing that they wanted to continue learning about the subject even after the class was over. It also had a positive effect on how responsible students felt for their own learning. Sixty-six percent agreed with this statement: "Because of self-grading I felt increased responsibility for my learning." (p. 54) Six percent thought it negatively affected how responsible they felt, and about 28 percent reported it had no effect. Did these students believe that having to determine their own grades meant that their instructor was not fulfilling a basic teaching duty? Better than 92 percent said no.

But this system was not without flaws. Under the self-grading regime, 57 percent of the students gave themselves a grade in the A range. Under the traditional system in the second semester, only 31 percent of the grades were in that range. As most faculty would have suspected, grade inflation was a problem with this system. However, the authors believe that problem could be reduced by "tightening the spread between the acceptable self-assessment grades and the strict numeric grades."

It's a solution worth considering because of what self-grading accomplished in this course. "The results of our case study and survey indicated that self-assessment opens doors for increased student interest, motivation, creativity, learning, and retention, thus improving the possibility of having successful academic experiences." (p. 55) But they also point out how challenging it is for most faculty to step away from grading—a deeply felt responsibility.

Reference: Strong, B., Davis, M., and Hawks, V. (2004). Self-grading in large general education classes: A case study. *College Teaching*, 52 (2), 52-57. ♥

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**Editor**

Maryellen Weimer, Ph.D.

Berks Lehigh Valley College
of Penn State

P.O. Box 7009, Reading, PA 19610-7009

Phone: 610-396-6170

E-mail: grg@psu.edu

Magna Editor

Rob Kelly

robkelly@magnapubs.com

President

William Haight

whaight@magnapubs.com

Publisher

David Burns

dburns@magnapubs.com

Editorial Content Director

Bob Bogda

bbogda@magnapubs.com

Creative Services Director

Debra Lovelien

Customer Service Manager

Mark Beyer

For subscription information, contact:

Customer Service: 800-433-0499

E-mail: custserv@magnapubs.comWebsite: www.magnapubs.com

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Students Conceptions of Teaching and Learning

A large study of students enrolled in geography courses at multiple universities in Australia, New Zealand, the United Kingdom, and the United States looked at their conceptions of geography, teaching, and learning. Each was considered separately.

The study employed several methodologies, among them a phenomenographic analysis of responses to several open-ended questions. This qualitative approach has been described as a method for “mapping the qualitatively different ways in which people experience, conceptualize, perceive and understand various aspects of, and phenomena in, the world around them.” (p. 18) It does not judge the conceptions but seeks to establish a set of descriptive categories. In this case a 20-percent sample from the larger study was created.

The study provides a valuable model of how any discipline might better understand the conceptions students bring to their study of the content. However, in the case of this study those findings are of interest to geographers only. More broadly relevant were their findings about these students' conceptions of teaching and learning.

Students in this sample had two primary conceptions of teaching. The first, and by far the most common, was an understanding of teaching as information transfer. Here are some sample statements illustrative of this conception: “Teaching is someone able to express material to others in a clear and understandable way so that others can learn,” and “Teaching is the delivery of information from one person to another in an understandable manner.” (p. 24) Three-quarters of the sample reported this conception of teaching.

The second and less-frequently encountered conception was of teaching as helping learning. Students either combined this and the first conception or saw it separately. These examples illustrate: “Teaching is to help students to understand

what you yourself have previously learned,” and “Teaching is giving others the opportunity to learn — especially guidance.” (p. 25)

With learning there were more conceptions. In fact, the ones extracted from this study confirm others reported in previous research. Starting with the most common conception, learning is the increase in knowledge: “Learning is the process involving the taking up of new information,” and “Learning is when you gain knowledge about something you previously new little about.” This conception of learning was held by just over two-thirds of the students in the sample. The second most common conception builds on the first one. Here learning is seen as an increase in information or memorization for latter application. Most of the illustrative comments here focused on the application of knowledge in anticipated job situations. Thirdly, these students saw learning as memorization for reproduction. “Learning is taking on new information which can be understood/remembered and redelivered.” (p. 26) The final two conceptions of learning were reported significantly less often: learning as constructing personal understanding and learning as changing personal understanding.

Researchers analyzed these conceptions by country, and those differences are reported in the study. The conception of teaching as transfer ranged from almost 72 percent in the U.S. to over 85 percent in the U.K. Percentage differences between those holding lower-level conceptions of learning (the first three) ranged from 87.5 percent in the U.S. to 96.7 percent in the U.K. In both cases the percentage differences are small when weighed against the preponderance of students holding these orientations. Percentages like these go a long way in explaining student resistance to those

Finding the Discussion Question That Works

By Joe Reese, Ohio University, Zanesville Campus

I've been teaching literature for more than 30 years, and nothing has struck me more during that time than the difficulty of finding just the right discussion question. It's easy to give out information, which students dutifully take down in notebooks and throw away after the test. It's not even that hard to do a kind of modified Socratic dialogue, in which you stand in the middle of the classroom and elicit one- or two-sentence responses (you pretty much know these responses beforehand) from select, eager students that you continually call on.

But these are not discussions. Discussions are freewheeling, bothersome, hard-to-predict, time-consuming animals that a great many teachers don't like. Real discussions don't always fit with what's in the syllabus or planned for class — they just grow, evolve, get out of hand, and sometimes mutate.

Frequently you can't even get them started. And you aren't helped very much by textbooks suggestions. "Analyze Hamlet as an individual." "Are there people like Ophelia in your dorm?" "Why

aren't they popular?" (I'm not kidding; I've seen these suggestions in print.)

There are questions, though, that work. They initiate actual, text-related argument. They energize students. They work on all students, not just the ones who know they need to discuss in order to impress the teacher. Every experienced teacher who truly likes discussion collects these questions. There are a great many of them out there, and I would love to hear other suggestions. Here, though, is my all time favorite: "Was Oedipus guilty?"

Five-minute wait. Finally, a student in the back with the baseball cap on backwards. "No. He's fated to do it. I mean, like, to marry his mother and kill his father. The gods make him do it." After only a one-minute wait, a female student up front responds, "Yeah but — he really does kill these people. And he's stupid for marrying a woman that much older than he is." From someplace else: "She's still good-looking though." Laughter. "I mean — he's guilty because he's crazy. He's gonna kill the blind guy — what's his name?" "Teiresias."

"Yeah, that." Laughter again.

"He's gonna kill that guy. And it doesn't make any sense because he's supposed to be smart." Someone else. "But he's not guilty because everything he does, he wants it to help people. He's trying to help the Thebes people, even to find the killer in the first place."

And so it continues for the entire class period (or maybe a lifetime, or even a millennium). You can make a trial scene out of it, with robed judge, district attorney, and defense counsel. You can have a jury. If that all seems too informal for the halls of academe, don't do it that way. But any way you do it, the discussion will get livelier and livelier (as long as you let it breathe and don't lead it too quickly where you want it to go — remember you don't know where it's going) — until it gets right to the heart of all that matters. It will lead to questions of divine omniscience, fate, pre-determination, and even modern heroism in the face of disillusioning truths. And it will lead to more of those questions that make discussions happen! ♥

Does It Really Matter Where Students Sit?

Do better students sit in front, or does seat selection contribute to better grades? A recent study examines this question.

In this study, 201 students enrolled in an algebra-based introductory physics course for non-majors were randomly assigned seats at the beginning of the semester. They were also assigned to a stable discussion group that included the three or four students seated near them. Halfway through the course, seat locations were reversed. Those in the back were moved up front, and those in the front were moved to the back. Some reorganization of the discussion groups also occurred.

These faculty researchers divided the class into four groups based on their dis-

tance from the front of the room. First, they looked at the attendance of each group during the first and second half of the semester. Two trends were evident: "The further the original seating location [was] from the front of the classroom, then 1) the lower the average attendance and 2) the larger the drop-off in attendance between the first and second half of the semester." (p. 32)

They also looked at the relationship between grades and location. The differences for all four groups were at the margin of statistical significance but the effects at the top and bottom of the grade distribution were pronounced. "The fraction of A's decreased steadily as the groups' original location was further from the front." (p. 32) In fact, "students

sitting in the back of the room for the first half of the term were nearly six times as likely to receive an F as students who started in the front of the room." (p.30)

Finally, these researchers used a standardized instrument that asked students to consider statements about physics and respond on a 5-point Likert scale. They found that "a larger fraction of students who started the semester in front showed improved beliefs compared to those who started the semester in the back." (p. 32)

Reference: Perkins, K. K., and Wieman, C. E. (2005). The surprising impact of seat location on student performance. *Physics Teacher*, 43 (January), 30-33. ♥

A Participation Rubric

By Adam Chapnick, University of Toronto
a.chapnick@utoronto.ca

After years of stating my expectations for tutorial participation orally, I have developed a rubric that I think both improves my accountability as an assessor and provides my students with a clear sense of my expectations for class discussions. It also makes clear my focus in the small group setting: creating a “learners-centered,” as opposed to a “learner-centered,” environment.

The rubric is currently being used in a third-year Canadian external relations course. Tutorials are held bi-weekly and are made up of 12 to 15 students plus an instructor-facilitator. The students are assigned approximately four readings (60 to 80 pages) per session. The readings usually contain two opposing arguments on a Canadian foreign policy issue (for example, arguments for and against free trade) and approximately two pieces of primary evidence (House of Commons speeches, government documents, etc.).

On class participation

Unlike some of the other forms of learning that take place in this class, participation in the small-group environment is not an individual activity. How and what you learn from listening to a lecture, reading a textbook, doing research, or studying for an exam is quite different from what you can gain when you have immediate access to approximately 15 different, informed points of view on a single issue. In tutorial, if you do not prepare effectively and contribute positively, other students miss out on one of those points of view, and their learning experience suffers. For this reason, my evaluation of your performance in tutorial will be based in large part on how you have improved the learning experience of your peers. Supporting, engaging, and listening to your peers does not mean that you must always agree with them. Rather, you should make a sincere effort to respond to their comments.

Playing an active role in discussions

involves volunteering your opinion, asking questions, and listening carefully.

The best discussions are the ones that move beyond the simple questions and answers. You will be rewarded for bringing up more challenging ideas and for trying to deal with them collaboratively with your classmates. To do this effectively, you must have read all of the assigned material carefully. If you haven't, it will become clear quite quickly.

Beyond the rubric

Additional Factors that May Affect Your Grade Positively:

- If you show measurable improvement as the year goes on, you will be rewarded significantly. Becoming more active and/or making more effective comments

not only raises the overall level of discussion in the room, it also sets an example for the rest of the class. By trying, you encourage others to do the same.

- If you are naturally shy, or have a day when you are not yourself, you may e-mail me relevant comments, thoughts, and questions after the discussion. While this method of participation is not ideal (it does not engage the rest of the group), it does demonstrate that you have been preparing for the class, listening carefully, and responding to your peers.
- If you miss a session completely, you can submit a one-page (single-spaced) typed argumentative summary of the assigned material (this means you must analyze and critique the readings, not

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The following rubric sets out the criteria upon which you will be evaluated: A guide to grading your class participation

A+	A	B	C	D	F
<ul style="list-style-type: none"> • Actively supports, engages and listens to peers (ongoing) • arrives fully prepared at every session • plays an active role in discussions (ongoing) • comments advance the level and depth of the dialogue (consistently) • group dynamic and level of discussion are consistently better because of the student's presence 	<ul style="list-style-type: none"> • actively supports, engages and listens to peers (ongoing) • arrives fully prepared at almost every session • plays an active role in discussions (ongoing) • comments occasionally advance the level and depth of the dialogue • group dynamic and level of discussion are often better because of the student's presence 	<ul style="list-style-type: none"> • makes a sincere effort to interact with peers (ongoing) • arrives mostly, if not fully, prepared (ongoing) • participates constructively in discussions (ongoing) • makes relevant comments based on the assigned material (ongoing) • group dynamic and level of discussion are occasionally better (never worse) because of the student's presence 	<ul style="list-style-type: none"> • limited interaction with peers • preparation, and therefore level of participation, are both inconsistent • when prepared, participates constructively in discussions and makes relevant comments based on the assigned material • group dynamic and level of discussion are not affected by the student's presence 	<ul style="list-style-type: none"> • virtually no interaction with peers • rarely prepared • rarely participates • comments are generally vague or drawn from outside of the assigned material • demonstrates a noticeable lack of interest (on occasion) • group dynamic and level of discussion are harmed by the student's presence 	<ul style="list-style-type: none"> • no interaction with peers • never prepared • never participates • demonstrates a noticeable lack of interest in the material (ongoing) • group dynamic and level of discussion are significantly harmed by the student's presence

Peer-Led Team Learning, Fewer Lectures: More Learning

Faculty reluctance to use student-centered approaches often stems from the fear that with less content being covered, less learning will occur. Some empirical studies addressing that issue have results some will find surprising.

In a section of a large general chemistry course, faculty experimented with a Peer-Led Team Learning (PLTL) method developed by the National Science Foundation. This approach puts students in groups of 10 and assigns each group a peer leader who is a fellow undergraduate student, but one who has successfully completed the course. In this study, student groups met for one 50-minute PLTL session per week. This session replaced one of the three 50-minute lectures scheduled for each week. During the PLTL sessions, students worked through one or two activities in which they explored “information in order to discover the need for new (to the students) concepts and subsequently ‘invent’ and apply those concepts. . . .” (p. 135) Content in the activities preceded lecture material on the topic. Peer leaders (who were trained) acted as facilitators.

The control group in the study consisted of a second section of the same gen-

eral chemistry course. It was taught by the same instructor, included the same content, and was graded similarly with 75 percent of the student’s grade being determined by performance on course exams and a final. Tests for both sections were identical and were given at the same time during the semester.

Because students could not be randomly assigned to these sections, researchers ran a number of tests to compare student populations in the two sections. None of the differences they tested for were significant, leaving them to conclude that the two students groups were substantially the same.

Performance on course exams and the final were used to ascertain the effectiveness of the PLTL activity. And here’s what the researchers found: “the experimental group consistently outperformed the control group on the course exams and final exam.” (p. 136) All the reported differences were at statistically significant levels. Moreover, another statistical analysis revealed that “the differences in performance between the two sections became larger as the course progressed.” (p. 136) And, a regression analysis led to this conclusion: “a student who attends

PLTL sessions can be expected to perform better on exams than another student at the same SAT level. This is especially impressive considering students in the PLTL sessions did receive one less lecture per week than those in the control group.” (p. 138)

Student survey data showed that students thought that the PLTL experiences were instrumental in their learning and performance. Seventy-four percent said that the sessions were beneficial. Seventy-six percent thought the PLTL sessions made up for the missed lecture. Eighty-five percent reported that if given the chance they would continue to participate in the PLTL sessions.

Next to be tested, the researchers note, is the impact of an intervention like this on long-term retention of content. But they conclude with this bottom line: “Fears that students who had less exposure to lecture would learn less proved to be groundless in this study.” (p. 139)

Reference: Lewis, S. E. and Lewis, J. E. (2005). Departing from lectures: An evaluation of a peer-lead guided inquiry alternative. *Journal of Chemical Education*, 82 (1), 135-139. 🍀

PARTICIPATION RUBRIC

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summarize them). Again, while not ideal, this will confirm that you have engaged and responded to the material.

Additional Factors that May Affect Your Grade Negatively:

- Not attending tutorial will have a significant impact on your final grade (regardless of the quality of your contributions during weeks when you are there). Obviously, you cannot contribute if you are absent. More importantly, not attending sets a poor example for your peers and encourages them to do the same. Finally, a cohesive and

supportive class dynamic is most easily developed and maintained in a relatively predictable and consistent environment. Your peers must know you and trust you to feel comfortable; it is much more difficult to build this trust if you do not attend tutorial regularly.

- Dominating class discussions is not helpful. It denies other students the opportunity to contribute and therefore restricts the number of ideas that might be considered. Dominating also prevents you from listening, and from building effectively on the comments of your peers.
- Speaking directly to the teaching assistant / tutorial leader is also highly discouraged. Tutorial is supposed to be a dialogue among peers, not a series of individual one-on-one conversations.

Ignoring your peers — and/or not referring to them by name — risks alienating them, and creates a much less supportive group dynamic.

- Negative, offensive, and disrespectful comments and actions can do serious damage to the learning atmosphere. Such behavior will necessarily result in a substantially lower grade.

Ed.’s nte: When we publish materials that instructors use in classes, we ask them to grant other instructors permission to use these materials in their courses. Professor Chapnick has given this permission. Please note this is permission for classroom use only. Permission to reprint the rubric elsewhere must be requested through normal channels. 🍀

Teacher's Pet

By Larry Spence, School of Information Sciences and Technology, Penn State
lspence@ist.psu.edu

Many years of research shows that students who spend more time in contact with faculty learn the best. That just confirms that students learn when they get one-on-one attention. They are the students we like and with whom we spend time. They pay attention to us and we are drawn to them. They are sources of joy. Even in the darkest semesters of uncaring students determined not to learn they shine like mercury-vapor lights on a soggy highway.

One of the most rewarding parts of teaching is that special melding of intellect and emotion that propels our student favorites and us to higher levels of performance. All professors have favorites whose achievements make our efforts worthwhile. After almost 40 years of teaching, I plaster my refrigerator door with snapshots of their marriages, babies, and vacations.

With all these good feelings and good results, surely it is ugly to suggest that this could be a bad thing. But what about the rest of the students? Are they dense, unable to learn, passive and not motivated, or are they victims of a Darwinian struggle for attention? A struggle, incidentally, that gets more ruthless the larger the institution and the larger the class? And a struggle that is unfair since it is those most like us who can manage to win?

Teaching a class that ended shortly before noon, I lunched at the student union cafeteria on the way back to my office. A quiet student from the class sat nearby one day, and I invited her to my table. She was a floater, not too interested but careful to do the required work. Like all teachers I was hoping for some response to the way the course was going.

She was non-noncommittal, but we had a lively discussion about the unfashionable dress of professors during which I discovered that she was smart but bored, a typical student not much interested in Plato or Dewey and less than ecstatic

about epistemology. Next time, I sat at her table, and she questioned the way I graded her quiz. I explained my reasoning and she disagreed amicably. "You put a lot of work into these, huh?" "It's my job."

With that we seemed to reach an unstated agreement and began regularly meeting for lunch. Wanting to get an average student's insights, I enjoyed the discussions of the reading assignments, the harried schedules with which we both coped, and the exotic anthropology of student life. The student, let's say her name was Susan, was irreverent and shyly disagreed with many of my views.

Susan began to speak out in class and to lead her learning team. Her academic performance rapidly improved. And while we did discuss the events of the course and argued about interpretations I didn't discuss or mention her grades. She was no longer average but now the best student in the course. At semester's end, she asked if she could sign up for an honors course I was teaching.

She did an astonishing job in a demanding course, throwing herself into discussions and assignments. So outstanding was her work that I invited her to become a teaching intern her senior year with major tutoring duties in the honors course. Her transformation from a B- student to an intellectual dynamo surprised me and made me proud. It seemed to have something to do with our impromptu lunches.

It worried me also. What if she hadn't been attractive or funny or tolerant of geeks? How many other students had her potential but never got my attention? If they did get my attention, how many of them could I attend to? And worse, I thought about the outstanding students over the years and wondered whether the images and memories of those friendships had helped me ignore the high rates of boredom and failure in my classes.

I forgot the experiment until last year

when I joined a cooking tour of Tuscany. After sweeping through the glories of Florence we settled for a week on a tourist farm where each evening we explored the mysteries of Italian cooking. Our master chef was reputed to be a great teacher. I expected lively lectures and lots of encouragement. At 5 p.m. the first day she described the five-course meal we would cook, let us choose a dish to prepare in teams, and handed us a handbook of instructions.

Knives and elbows flashed. I was frequently hip checked as I maneuvered to get a pan on the stove. Out of chaos came an unforgettable five-course meal. Nursing my last glass of wine at 10 that evening, I asked our teacher, "How come you didn't tell us where everything was?"

"For years I gave kitchen tours before starting and it made no difference. No one seemed to learn so I just let people find out for themselves which they did when they needed to know," she replied. Brilliant, I thought. Actually I decided she was a genius and determined to learn her every secret.

The next morning I couldn't wait to get to the kitchen and the maestro. I shaved, dressed, and rushed by the coffee pot. "Anything I can help with?" I announced on arrival. As if she expected me, the teacher handed me a vegetable knife and a bag of almonds. "Chop those into small pieces." I chopped away until another voice broke my concentration, "Anything I can do?" I looked and saw the other male professor on the tour. Our eyes fired and we smiled like two rivals for the favor of a ballroom queen. Our colleagues taunted us as we carried the teacher's favor for the rest of the course. We joined in their jokes happily for we knew the secret. If you want to learn, you have to get in the teacher's face and stay there. 🍷

Strategies for Large Classes

Increasing class size continues to be a reality on many campuses. The two articles highlighted here both provide specific and detailed accounts of how instructors are managing to maintain robust active learner components in large courses.

Here are the specifications on each of these courses: Environmental Geography 201 at Ohio University functions as a “gateway course” into the popular environmental geography major track. It enrolls between 120 and 200 students.

Geology 206, Oceans and Nations, is a mid-level undergraduate oceanography course that focuses on human interaction with the marine environment and international relations involving oceanic issues. Taught at Ball State University, it satisfies a global/international studies distribution requirement. Between 100 and 120 students enroll in this course. Both courses have TAs assigned to them.

Recently redesigned (with support from an internal grant fund), Environmental Geography now includes three large lecture sessions per week and one weekly discussion section. Students are divided into five-member groups that meet throughout the quarter. In those groups, students exchange information, collaborate on short assignments, and evaluate each other’s work. Team photos are taken to facilitate name recognition and to develop group cohesion.

Groups are also used in the Oceans and Nations course, but they are convened during the course’s regular lecture sessions. Again these discussion groups are permanent. Students choose group members (four to six) in the fifth class session, and a seating chart is used to ensure that group members are seated near each other.

In Environmental Geography, various themes (like solid waste generation and reduction, and energy consumption, and water use, for example) are explored. Students complete a journal assignment (it may be completed individually or as a group, depending on the discussion instructor) in which they keep track of

everything they discard during a seven-day period. The assignment description distributed to students is included in the article. To ensure that discussion sections remain connected to the course, a fish-bowl strategy is used in which representatives from the various discussion groups gather around a table at the front of the large lecture hall and discuss the results of their most recent assignment.

In Oceans and Nations students discuss readings and video presentations in their groups. They begin with a reading that sets out detailed guidelines for having successful discussions. To ensure that students come to their groups having done the reading and prepared to discuss, they are given worksheets that must be completed prior to the discussion. The TA checks for completed sheets as students arrive in class. After a 30-minute discussion of the reading or video presentation, four to eight groups are randomly called on, and a spokesperson from those groups reports to the rest of the class on the discussion. Group must have a new spokesperson for each report. The group reports are graded. A number of these discussions involve students drafting international policies, often asking them to represent the needs, policies, and cultures of different nations. An example of one of these group-report assignments is included in the article.

In both courses, discussion-group activities count toward the students’ final grades. In Environmental Geography, students earn a discussion section grade and in Oceans and Nations, discussion-related activities count for 25 percent of each student’s grade.

Both articles offer advice to other instructors interested in incorporating activities like these in their courses. The Environmental Geography course describes the evolution of the course design, including some iterations that were not as successful as the current structure. Both include more descriptions of activities completed by and in the discussion groups than we have time to highlight here.

Among the advice offered for others interested in using discussion activities are these suggestions: Those associated with the Environmental Geography course report that adding the discussion section “proved challenging to the faculty members and teaching assistants assigned to the course.” (p. 236). They say that to ensure a smooth transition, those associated with the course must be prepared to jump bureaucratic hurdles and that financial support is needed to ensure continued TA support to guarantee that students have the opportunity to participate in a field-trip experience and to replace equipment as needed.

The Nations and Oceans team offers a long list of keys to success, which includes specific advice for using group discussions structured like theirs. Here is some of what they recommend: First, students need to learn up front about the design of the course and its activities. The course needs to be scheduled in a room without fixed seating so that discussion groups can circle together. Group discussions must be guided with worksheets and study questions. “Never in this class are students presented with a reading or video presentation, without having some clear direction on what kinds of things they are hunting for and evaluating within it.” (p. 264). And they conclude with this recommendation: “Fully honor the students’ discussions work in testing. Test questions should address both the content material and students’ developing understanding of the issues.”

References: Buckley, G. L., Bain, N. R., Luginbuhl, A. M., and Dyer, M. L. (2004). Adding an ‘active learning’ component to a large lecture course. *Journal of Geography*, 103, 231-237.

Rice-Snow, S., and Fluegeman, R. H. (2004). Maintaining a small-group discussion focus while bringing international issues into the large classroom. *Journal of Geosciences Education*, 52 (3), 260-265.

Scholarship of Teaching: Now Too Defined?

When Ernest Boyer's *Scholarship Reconsidered* was first published, it generated waves of interest, most of which settled on his proposal for a scholarship of teaching. The idea that the definition of scholarship as the advancement of knowledge could be broadened was interesting, but the notion of a scholarship of teaching resonated with almost everybody. It quickly became the latest trendy idea in higher education. Everybody jumped on board and soon the scholarship of teaching meant everything and anything that advanced teaching and learning causes.

Scholars now agree that despite its many contributions the Boyer monograph on scholarship did not clearly define the idea of a scholarship of teaching: That in part explains how it came to mean so many different things. A move to define the term ensued and continues today. A wide variety of definitions have been put on the table. Some of the most thorough work has been done by Carolin Kreber of the University of Alberta, whose very systematic Delphi study of how experts define the term we highlighted in a previous issue. In the article referenced below, Kreber now expresses some concerns that we have gone from no definitions, to many definitions, to some very narrow definitions. Here are some of the points made in this recent and very interesting article.

Almost from the beginning, attempts have been made to differentiate between the scholarship of teaching and excellent teaching. The most widely published and probably best-known definitions for the scholarship of teaching are those offered by the Carnegie Foundation and its Carnegie Academy for the Scholarship of Teaching and Learning. Those definitions propose that the scholarship of teaching involves scholarly work on teaching and learning publicly disseminated and peer reviewed. Excellent teaching involves informed teaching as in teaching that applies what has been discovered in the scholarship of teaching.

Kreber reports that faculty she has worked with resist these distinctions. They welcome the idea of a scholarship of teaching as it legitimizes and enhances the value of teaching generally but not as it requires them to do more and different scholarship:

The distinction between being an excellent teacher and practicing the scholarship of teaching doesn't make sense to the majority of faculty because such a view is seen to generate some form of 'caste system' of teachers: the good and the better. (p. 30)

Kreber also expresses concern about the dominance of pedagogical content knowledge in definitions of the scholarship of teaching. Pedagogical content knowledge (as introduced by Lee Schulman) refers to the teachers' understanding of how content is best taught so that students learn it. If you understand differential equations (for example) you use your understanding of them to select to instructional strategies best suited to teaching them. This emphasis on pedagogical content knowledge embeds the scholarship deeply within the discipline and narrows the definition. Kreber observes:

Within less than a decade, so it seems, the pendulum has swung from one extreme to the other. Once seen as an ill-defined and all-inclusive concept, the scholarship of teaching has now been forced into much tighter parameters, perhaps so tight, that many faculty who practice SoTL [scholarship of teaching and learning] in alternative ways remain unrecognized for the important work they do. (p. 33)

Efforts to define the scholarship of teaching are something of a conundrum. If the term is to have credence, it cannot mean all things to every teaching advo-

cate. On the other hand, the larger issues of getting teaching rewarded, recognized, and valued are not likely served by a definition that relegates pedagogical scholarship to such a narrow and exclusive domain.

Reference: Kreber, C. (2003). Challenging the dogma: Towards a more inclusive view of the scholarship of teaching. *Journal of Excellence in College Teaching*, 14 (2/3), 27-43.

Ed.'s nte: For those interested in the scholarship of teaching, the whole issue of this journal is devoted to it. Kreber's is not the only excellent article in the issue. For information about acquiring a copy of the issue, visit the journal's website at <http://ject.lib.muohio.edu/>.

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instructional approaches that encourage different and deeper kinds of learning.

Researchers attribute these conceptions of teaching and learning to the strongly didactic approaches that characterize students' previous learning experiences. They point out that the "ideal of higher education as a voyage of personal discovery will remain just that, a staff [faculty] ideal unrealized by students, unless students are helped to explore other conceptions of learning and teaching." (p.32)

Reference: Bradbeer, J., Healey, M., and Kneale, P. (2004). Undergraduate geographers' understandings of geography, learning and teaching: A phenomenographic study. *Journal of Geography in Higher Education*, 28 (1), 17-34.