

Essays on Teaching Excellence

Toward the Best in the Academy

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Achieving Teaching and Learning Excellence through Faculty Learning Communities

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A faculty learning community (FLC) is a cross-disciplinary faculty group of 5 or more members (8 to 12 is the recommended size) engaging in an active, collaborative, yearlong program with a curriculum about enhancing teaching and learning and with frequent seminars and activities that provide learning, development, interdisciplinarity, the scholarship of teaching and learning, and community. A faculty participant in an FLC selects a focus course to try out innovations, assess resulting student learning, and prepare a course mini-portfolio; engages in biweekly seminars; works with student associates; and presents project results to the campus and national conferences. Evidence shows that FLCs increase faculty interest in teaching and learning and provide safety and support for them to investigate, attempt, assess, and adopt new (to them) methods (Cox, 2001).

FLCs: Two Basic Categories

There are two categories of FLCs: cohort-based and topic-based. Cohort-based FLCs address the teaching, learning, and developmental needs of an important cohort of faculty that has been particularly affected by the isolation, fragmentation, stress, neglect, or chilly climate in the academy. The curriculum of such a community is shaped by the participants to include a broad range of teaching

and learning areas and topics of interest to them. These communities will make a positive impact on the culture of the institution over the years if given multi-year support. Four examples of cohort-based communities at Miami University are the Teaching Scholars Community for junior faculty, the Senior Faculty Community for Teaching Excellence, the Preparing Future Faculty Community for graduate students, and the Department Chairs Learning Community.

Topic-based learning communities have curricula designed to address a special campus teaching and learning need, issue, or opportunity. These communities offer membership to and provide opportunities for learning across all faculty ranks and cohorts, but with a focus on a particular theme. A particular topic-based FLC ends when the campus-wide teaching opportunity or issue of concern has been satisfactorily addressed. Examples of topics addressed by topic-based FLCs are team teaching, problem-based learning, diversity, teaching portfolio development, ethics, departmental assessment of general education, small-group learning, teaching writing-intensive courses, first-year experience, connecting the humanities and digital technology, and courses in common.

Comparison with Other Types of Faculty Groups

FLCs are more structured and intensive than other types of faculty groups such as teaching circles and "brown bag" study groups. FLCs are different from, but in many ways like, action learning sets in that they both are "a continuous process of learning and reflection, supported by colleagues, with an intention of getting things done" (McGill & Beaty, 2001, p. 11). FLCs employ the Kolb experiential learning cycle, engage complex problems, energize and empower participants, have the potential of transforming institutions into learning organizations, and are holistic in approach.

Recommendations

We recommend the following practices for ensuring that FLCs are effective. An institution's culture and key players affect the manner in which these suggestions should be employed. Detailed recommendations for initiating and continuing FLCs can be found in Cox (1997, 1999).

Initial Planning Overview The campus teaching center and/or faculty development office should develop one or two FLCs at a time. Often administrators are willing to invest funds in junior faculty, technology, or diversity, so these may be good starting points. Faculty and administrators must be convinced that an FLC provides meaningful learning, development, and community. To provide convincing evidence, campuses that already have student learning communities can cite evidence that the outcomes for faculty are similar: increased collaboration across disciplines; increased retention; a more coherent curriculum; more active learning; more civic contributions to the common good; and, over time, a campus community built around teaching and learning. View the initial year as pilot testing.

Initial Planning Items. Engage the following steps at the start:

- Obtain broad administrative and faculty support, including academic vice president and deans, a critical mass of department chairs, respected senior and junior faculty (control stays here); and university senate.
- Establish a respected advisory committee, part of university governance.
- Emphasize outcomes about increased faculty and student learning, interest in teaching and learning, etc.
- Cite the literature to build support.
- Select your "best" faculty to establish the initial FLC as prestigious, not remedial.
- Give the faculty participants a strong hand in designing the year's agenda.
- Design activities, accommodations, and recognitions to make participants feel valued and respected by the institution.

Scholarship of Teaching. Nurture the scholarship of teaching by incorporating a sequence of developmental events: for example, starting the year with discussion based on the focus book; developing individual teaching projects with clearly stated learning objectives, literature reviews, and assessment plans for student learning; and providing access to relevant books and journals on post-secondary teaching and learning. Members should present the results of their projects at a campus-wide seminar or teaching retreat, followed by a

presentation at a national teaching conference (Cox, in press).

Assessment. Provide a means for assessing the effectiveness of the objectives of the community, both short- and long-term. Use evaluation surveys to gauge faculty development outcomes and the effectiveness of program components. Collect pre- and post-community syllabi to illustrate changes inspired by participation. Participants should prepare a course mini-portfolio for their focus course.

The Role of Faculty Leaders. Teaching center faculty and staff play a key role in managing the operations of FLCs. This consists of working closely with each faculty coordinator of a community. The office handles room scheduling, meals, travel, publicity, and budget items for all the communities. Providing a variety of FLCs over the years enables faculty to concentrate on specific issues or developmental needs at various times during their careers. FLCs provide deep learning rather than surface learning.

Compensation and Rewards. Participation in an FLC takes time and work: attendance at retreats, national conferences, and biweekly seminars; interaction with a student associate and a faculty partner; reading the literature of the scholarship of teaching; development of a teaching project; and preparation of a presentation for the campus and, perhaps, a national conference. The best compensation for faculty participants is to provide release time from one course for one semester. If an institution does not have the budget to provide release time, each participant could receive an honorarium of \$500-\$1,500 to use for professional expenses. Each faculty community coordinator receives one-course release time for both semesters. Service as a coordinator or participant must be approved by his or her department chair.

Overcoming Obstacles. Some obstacles must be addressed in order to start and continue FLCs. One obstacle is the length of time needed for an institution to show a cultural change as a result of the community approach—at least 5 years. Other obstacles include cost, participants' time commitment, changes in administration, and the isolated nature of faculty life—the group structure of the community experience is not for everyone. With this in mind, institutions

initiating communities should continue other support for individuals: grants, one-to-one consultations, and "one-time-only" campus seminars and workshops. These obstacles are similar to some of those that challenge student learning communities, as Barr (1998) observed: "Faculty experimenting with [student] learning communities are finding themselves hard-pressed to keep them going" (p. 22).

Conclusion

Once one successful FLC is up and running, however, the positive outcomes for participants and the institution should convince administrators to continue and expand funding. Enthusiastic participants can convince reticent colleagues to join. The long-term rewards of community, collaboration, and better student learning are well worth the effort. Faculty learning communities and their inherent opportunities for change and growth provide the support for meaningful impact on individuals and the institution.

Note: Institutions interested in developing FLCs are invited to visit <http://www.muohio.edu/flc/> and join the Consortium.

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Leading Culturally Sensitive Classroom Discussions Following September 11

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Since the events of September 11, 2001, much has been written about its impact on global politics, the global economy, and international communication. Educators continue to focus on the importance of addressing these issues with our students in the classroom environment. Edward Zlotkowski in his keynote address at the 2002 AAHE Faculty Roles and Rewards Conference noted, "Our job as educators today and tomorrow and for quite some time to come is to help our students as best we can to make sense of the events of September 11th, and for every discipline surely, there are connections that can and should be made between the tragedy our students are living through and the subjects we teach."

As faculty developers we are being faced with two questions from campus faculty: (1) how do we integrate the events of September 11th into our course curricula and (2) how do we manage classroom discussion around these issues so that the educational experience is powerful, positive, relevant, and edifying for all students in the course. This essay will address both issues based on pedagogical practices that exist on campuses across the country.

Integrating Content into Course Curricula

The Obvious Course Fit for September 11 Issues

As faculty consider integrating issues around September 11 into their course curricula, there are obvious "easy fits", and there are more difficult fits. Courses that are marked as "diversity courses" within the campus curriculum are obvious homes for September 11 issues. These courses, and innumerable others, teach students skills they will need to communicate competently within an increasingly diverse world. Two examples of this type of course are as follow.

University of Michigan: "Intergroup Relations, Conflict and Community." This course teaches students how to address conflicts that arise among and within different groups and explores the possibility for building community across racial and ethnic boundaries.

Portland State University: "Oregon Leadership Institute." This yearlong course is designed for students who mentor Latino students. Through exploration of issues concerning self-identify, understanding one's cultural beliefs, and cultural and racial stereotyping, this course provides students strategies and skills to become community and national leaders.

The Not-So-Obvious Course Fit for September 11 Issues

When the issue of September 11 is raised in courses that are traditional, canonical courses, a common faculty response is that this topic is either an uncomfortable "add-on" to the course or that there really is no place or no time where this fits into the course curriculum. With an open mind, creativity, and additional thought, course content related to September 11 could be an "easy fit" and a beneficial addition to almost any course.

For Example:

An American literature course that includes traditional texts by authors such as Herman Melville, Mark Twain, Walt Whitman and Nathaniel Hawthorne might also include contemporary U.S. writers

who have focused their writing on issues around September 11. Comparing and contrasting topics such as "cultural stereotyping" in the traditional text and the more recent text could be modules within the course.

Courses on rhetoric and public speaking might choose speeches given after national tragedies (e.g., September 11) comparing the types of oratory and orators. The student analysis would focus on the events of September 11 and how these specific events influenced both the content of the presentation and audience interpretation.

Courses in professional schools (e.g., business, law, medicine) could include components on how the events of September 11 help shape the professional direction of these applied fields. For example, schools of social work across the country are incorporating counseling approaches that are specific to the needs of people affected by September 11.

The Effect on Graduate Studies

Another topic of great importance and relevance in this area is graduate courses, graduate students, and sensitive subjects. Peter Magrath, President of the National Association of State Universities and Land-Grant Colleges (NASULGC) stated, "Students come to our universities because they want to study certain subjects or undertake research, particularly if they are graduate students. The Bush Administration is determined to screen out from admission to graduate and research programs a small number of visa applicants interested in pursuing study or research in sensitive subjects uniquely available in the United States, and that might have application for terrorist activity, as for example, with biological toxic agents."

As issues around course content and student enrollment arise, it is critical that campuses and faculty have campus-wide discussions around the ethics, the intent, and the outcomes of this thinking. Administrators, teaching and learning centers, international education offices, and student affairs offices need to lead these discussions on campuses across the country. Unless faculty have input on these issues, however, student enrollment policies will be

determined by a few but will affect all.

Leading Sensitive Discussions

It is nearly a year after 9/11, but faculty continue to seek effective pedagogical practices for addressing these issues, while also maintaining a course climate that is inclusive and encourages continuing discussion and learning. The University of Michigan's Center for Research on Learning and Teaching (CRLT) created guidelines that have been adopted by educators across the country (see <http://www.crlt.umich.edu/resmain.html>). The following recommendations are an expanded version of these original guidelines:

Introduction. When introducing these topics, the instructor could note that the issues surrounding September 11 may be more sensitive for some than others. Modeling a constructivist approach, the instructor might explain how the September 11 events specifically affected herself and how she made sense of these events during the event, right after the event, and currently. This would allow the students to understand how the instructor made sense of the 9/11 events and how these events have since shaped the instructor's worldview.

Code of Conduct. The instructor should help the class establish a code of conduct that respects diverse views and avoids inflammatory language and then should model and help maintain the code himself. If someone violates the code, the instructor needs to gently remind the students and paraphrase in such a way that keeps the classroom discussion focussed and the student who violated the rules included. Before responding directly to another student's comment, students should paraphrase the comment. Once the first student confirms that the second student's paraphrase is accurate, then the second student can posit her own personal opinion. As a result students feel that their opinions have been heard and understood before the conversation moves on.

Sharing Personal Stories. Connecting students' own personal experience with the course content and learning objectives is important. The more students share personal stories that are relevant

both to September 11 and to the particular module introduced in the course, the deeper the learning intended by the instructor.

Students in Target Ethnic Groups. It is important that class members hear the voices of students who are members of ethnic groups or constituencies directly associated with the events of September 11 and that they avoid stereotyping. These students are an integral and beneficial part of the classroom environment, and students who are not part of these groups and constituencies should understand this from the outset of the term.

Frameworks and Strategies for Discussion. Well thought-through discussion frameworks can help shape the direction of the module and further student learning outcomes. When the discussion is underway, the following strategies may help create a comfortable and inclusive climate: use "rounds" in which each student responds to a guiding question followed by open discussion; divide students into discussion groups; and have students write before speaking.

Other Thoughts. Other ways to engage students in the post 9/11 events and course curriculum include:

- Speak with the teaching and learning center on your campus to explore other suggestions for managing classroom discussion;
- Combine some course sessions with another instructor who may be covering the same issue in her course.
- Create an on-line environment to enhance discussion and encourage all students to participate.
- Design community-based, service-learning activities to integrate 9/11 events more closely into the course curriculum.

Conclusion

As higher education enters the 2002-2003 academic year we are living in a different world than we did a year ago. We need to reflect continuously on the events surrounding September 11, how to integrate them most effectively in our curricula, and how to most effectively manage the sensitive discussions that arise around these issues.

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Unlearning: A Critical Element in the Learning Process

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Prior knowledge is arguably the single most important factor in learning. Unless we as instructors engage prior knowledge—the good, the bad, and the ugly, we risk sabotaging the new learning we work so hard to put in place. Don't we marvel at the misunderstandings students embrace with conviction, despite ample classroom instruction and readings to the contrary (e.g., Harvard University's Private Universe project)? And any tennis player who has attempted to retool her backhand or golf player his golf swing will attest to the recalcitrance of prior learning. Before the new and far more devastating backhand can emerge, the older, less effective one must wither and die. Paradoxically, unlearning allows new learning to take hold.

The Underlying Theory

The major learning theories and theorists all have something to say about the role of prior knowledge and unlearning in learning. For behaviorists learning represents new stimulus- and-response sets forged through powerful external reinforcements. Unlearning occurs in two ways: 1) through a process of "extinction" or the removal of reinforcements (Ever try sticking to a diet when the pounds stop coming off?) and 2) the apposition of "reciprocal behaviors" or the introduction of a stimulus that evokes a response different from the usual response in a given situation (Why do pediatricians wear child-friendly ties?). In contrast, early cognitive theories examined the role

of "proactive interference and inhibition" or the interference of old with new knowledge in the context of successive memorization of word lists. (During my Peace Corps/Sri Lanka language training, high-school French words would somehow find themselves mixed into halting lines of Sinhala.)

Three major cognitive theorists also explored the role of prior knowledge in learning, each with a slightly different emphasis. Piaget, the great Swiss developmental psychologist, stressed the role of knowledge structures (or "schemata") and their reformulation through the processes of assimilation (i.e., incorporating new information into existing structures), accommodation (i.e., incorporating new information by revising existing structures) and equilibration (i.e., the overall interaction between existing ways of thinking and new experiences). Through successive reformulations we achieve states of more complex, satisfactory, and stable equilibria with the environment. The American philosopher and educator John Dewey explored the role of problematic experience in stimulating inquiry. During such experiences we feel confused and uncertain, unable to coordinate prior knowledge and habit to meet the demands of the present moment. A new mode of being, different from customary use and enjoyment, ensues — the reflective transformation of existing perception, thought, and action into ever more satisfactory wholes. And finally Vygotsky, the Russian psychologist, highlighted the role of social interaction in the reconstruction of prior knowledge. He explored the "zone of proximal development" or the difference between what a learner can do without help and the capabilities of the same learner in interaction with others.

Types of Unlearning

Often when we think of learning, we think in terms of content: the various facts and concepts we know in a particular knowledge domain (e.g., history, physics, psychology). In fact, much of the research on the role of prior knowledge in learning has taken place in the context of conceptual misunderstanding in the sciences. While so-called "declarative knowledge" (i.e., knowing that) is certainly important, there are other areas of learning as well. "Procedural knowledge" (i.e., knowing how) refers to the various ways of operating on and acting upon information in any number of situations: for example, solving a math problem, carrying out

emergency protocols, executing a play in football. Unless we are in the early stages of learning (e.g., a new driver learning manual transmission), such knowledge is often tacit and well out-of-reach of conscious awareness. And in crisis situations newer and less stable learning will cave into older learning, however misguided it is. Attitudes and their reflection in how we behave also represent an important domain of learning. For example, if students believe that learning is a matter of natural ability rather than effort, they will be unlikely to try very hard in the face of the slightest adversity.

Ways of Promoting Unlearning

Behaviorist Tradition. Researchers and practitioners have suggested a variety of ways of promoting unlearning in the service of new and better learning. In educational psychologists Gagne and Briggs' classic eight-point lesson plan, a fusion of the behaviorist and cognitive traditions, instructors engage students' prior knowledge early on before introducing new material.

Cognitive Tradition. In the cognitive tradition, instructors have exploited the explanatory power of analogies to address students' misconceptions, particularly in the sciences. The general idea is this: instructors develop two related analogies to a desired "target" or new learning that a student does not initially accept. The first analogy is an "anchor," an example comparable to the target, but one that the student can accept based on intuition or day-to-day experience. The second analogy is a "bridge," an intellectual midway point that shares features of both the target and the anchor. For example, many introductory physics students cannot accept initially the existence of an upward force on a book resting on a table (target). They typically view the table as a rigid barrier rather than an elastic upward force. In the physicist's view, however, a hand or heavy-duty spring holding up the book are both analogies that the student, too, could accept (anchor). Two sawhorses supporting a board with a book resting on it provides a possible bridge. Rather than simply pointing students to these analogies in a textbook (the traditional approach), the instructor actually engages students in a process of analogical reasoning in an interactive teaching environment. And the instructor uses the analogies to enrich students' view of the target rather than helping them view the target more abstractly.

In contrast a range of approaches exploit the cognitive dissonance between prior misconceptions and contemporary understanding to stimulate unlearning. In the absence of instruction people construct "plausible theories" of a range of natural phenomena based on their observations of these phenomena over a long period of time. Often these theories represent different models from those accepted by the scientific community or other professional bodies. To help dislodge these misconceptions, instructors can exploit discussion and questioning strategies to identify student misperceptions and then contrast these with actual scientific explanations. Students can also become conscious of their preconceptions by making predictions based on them and then comparing their predictions to actual results and the accepted scientific explanation.

Finally mediational learning theory provides a distinctive pedagogy which addresses the major issues of unlearning and relearning when individuals face change in their prior habits, skills, or concepts. It explains how instructors can control and redirect proactive inhibition and thus control the unlearning process. The multi-step process proceeds as follows: presentation to students of a learning model that explains the need for mediational learning strategies; eliciting of students' knowledge, beliefs, and ideas of a concept; differentiation of words used in a technical manner from their common sense usage; explicit instruction of the concept with opportunities for students to rehearse important aspects of it; and comparison of old and new concepts from multiple perspectives and the generalization of the new concept to at least six novel applications or problem solving situations.

Summary

Noting the "learning pervading other activities," Mary Catherine Bateson observed, "Mostly we are unaware of creating anything new, yet both perception and action are necessarily creative" (p.6). In fact micro-cycles of unlearning and relearning punctuate the lives of the aware, making each moment an opportunity for excitement and growth. As instructors we can help students become more aware of and thus take control of this life-enriching process.

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Teaching Circles: Making Inquiry Safe for Faculty

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As college instructors, we are hired for our expertise. Most students look to us for the "final word" in their classes. Colleagues ask us questions about our field, looking for assistance. Department chairs and promotion, tenure, and evaluation committees determine our futures based on how well we present ourselves and our knowledge. Our ability to engage students, develop effective teaching strategies, and track the success of our efforts affects student evaluations and even our ability to manage time and set priorities to do other forms of scholarship and research. In too many contexts, there is little room to acknowledge deficiencies or gaps in knowledge without great risk, not only to our careers but perhaps even to our personal identities.

Yet, in one crucial area, the scholarship of teaching and learning (SOTL), many college professors lack expertise, because graduate programs and work in most disciplines has not prepared them for engaging in this new form of scholarship. Even so, revealing the need to become scholars of teaching and learning can carry risk. Teaching circles provide one of the safest havens for such revelation.

As Lee Shulman (1993) points out, because teaching has not been included in the "community of scholars," we experience "pedagogical solitude" (p. 6). That solitude has allowed many

teachers to structure their priorities around more visible and institutionally valued work. But as SOTL draws increasing attention from administrators and managers, we must find ways to learn ourselves how to energize our teaching and how to become learners ourselves. Those ways must take into account the risk involved in saying, "I don't know how to do this."

Teaching Circles: Definition

Pat Hutchings (1996) defines a teaching circle as "(1) a small group of faculty members... (2) [who] make a commitment to work together over a period of at least a semester (3) to address questions and concerns about the particulars of their teaching and their students' learning" (p. 7). Also called "faculty learning communities" (Cox, 2001), they can be cross-disciplinary or departmental. But the basic idea is that teaching becomes more "public" in some way and that "community building (Cox, p. 71) takes place. And while both kinds of groups encourage participants to acknowledge their need to enhance their teaching skills, the composition of a group (i.e., departmental or cross-disciplinary) and its size changes the degree of risk and the nature of the interaction.

Teaching circles comprise teachers. While that seems to be commonsensical, it belies the fact that teaching exists in a larger context, with administrators and managers and structures that impede or support teaching. When we participate in teaching circles, we must interact with our peers, free from the fear that an admission of inability may become part of summative evaluation.

Teaching Circles: The Basics

Like any small group activity, teaching circles work when members feel a public commitment to enhance their teaching expertise, a sense of accountability to peers, and self-efficacy as well as a sense of social support and safety.

We have found that some basic elements help insure the success of teaching circles. Three to seven members is an optimal size with leadership provided from within or by a designated mentor. All members should agree on a major theme for the group (e.g., teaching in large classes, teaching portfolios, problem-based learning, constructing good writing assignments). Having a clearly stated,

overall goal for the circle including a final written product is important as well as specific objectives for each meeting. And assigning specific tasks to each member (e.g., logistics, resource locator, moderator, recorder) provides a sense of shared ownership for the performance of the teaching circle.

Cross-Disciplinary Teaching Circles

Because it's difficult to see beyond what is always done in our own field, discussions with faculty in other fields can be stimulating. Cross-disciplinary teaching circles focus on exploring specific practice that is common across disciplines.

When a teaching circle forms from multiple disciplines, members must explain themselves, define terms, avoid assumptions and quick judgment, and must move from the general to the specific—the practice and scholarship being explored and the context in which teaching will take place. We may feel safer in some ways speaking with "strangers" than with immediate colleagues. The lack of knowledge about another discipline can transform us into listeners and learners instead of lecturers and teachers. Since cross-disciplinary groups may be smaller than departmental teaching circles due to the difficulty of establishing a common meeting time, the discussion seems more intimate. For this reason, reliance on one another to help meet the group goals is increased. And fewer people know that you don't know something!

What are the risks? That people across campus now realize that you lack some knowledge. However, talking across disciplinary boundaries helps us understand that while there may be a common base of experience, we might struggle with our teaching for very different reasons, some of which are not always within our control (e.g., class size, course content, and student demographics). It also helps participants understand how complex teaching is and helps them realize that developing as a scholar of teaching and learning parallels development as a scholar in a content field.

Departmental Teaching Circles

While cross-disciplinary teaching circles are often formed around exploring a specific classroom practice (e.g., the use of student journals) or developing teaching portfolios, departmental teaching

circles are likely to form around content issues. Jean McGregor (1996) says, "The best conversations begin not around a teaching method...but around ideas that people care about...Starting with content provides the necessary platform for discussion about the teaching strategies that will work best with a particular group of students" (p. 69). Discussion in a department begins with the understanding that sub-fields abound, and of course no one knows all there is to know about the field as a whole. (In contrast, in interdisciplinary teaching circles, members are sometimes surprised to find that there are so many sub-fields: for example, isn't computer science just computer science?)

However, in most institutions, these are the people who will be observing us in classrooms, evaluating our performance most immediately, examining our syllabi, and sitting in the closest proximity of judgment. The larger number of people often involved in a departmental teaching circle can make it more difficult to leave old alliances and beliefs behind., And members may feel that their admissions of lack of knowledge or skill may later affect important decisions.

Despite these risks, however, some real rewards can accrue from departmental teaching circles as well. When serious and collegial discussion takes place at the departmental level, even about a single course, the benefits can spread, resulting in a more coherent sequence of courses in the major or reconsideration over time of many courses and even a department's mission and goals. And of course we all care about the substance of what we teach in our field; recognizing equal concern in our colleagues balances out the risk of making our teaching public.

In conclusion, an institution or department wishing to support teaching circles needs to acknowledge and help faculty understand that there are risks as well as benefits. Balancing these two aspects provides some of the energy and excitement of participating. To ensure safety, however, we must emphasize the formative aspects.

Note: More information about teaching circles is available at <http://www.iup.edu/teachingexcellence/>.

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Helping Students Help Each Other: Making Peer Feedback More Valuable

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As cooperative learning has flourished across academe, instructors across the disciplines have increasingly held their students responsible for not only their own learning but also for that of their peers. Faculty have even relinquished their monopoly on assessment, having students critique and evaluate each other's work in both the formative and summative stages. The questions that students encounter on peer feedback forms often resemble those that scholars ask themselves when they are revising or reviewing a manuscript: How effective is __? How logical is __? How strong is the evidence for __? How clear is __? These questions demand a reasoned, evaluative judgment. Are undergraduates up to the task?

This essay examines the research on the quality of student peer feedback, analyzes its shortfalls, and proposes a way to eliminate them, thereby maximizing its considerable benefits for students

Student Peer Feedback: Pros and Cons

How well do students handle these evaluative questions? The research results are mixed. Many studies show that peer assessments of assignments such as papers and oral presentations are biased and are typically more lenient than the instructor's judgments. In addition, their inter-rater reliability is often low (Orsmond, Merry, & Reitch, 1996; Pond, Ulhaq, & Wade, 1995).

However, other research shows fairly high agreement between students' and instructors' assessments (Oldfield & Macalpine, 1995; Rushton, Ramsey, & Rada, 1993) as well as acceptable levels of validity and reliability (Topping, 1998). Furthermore, peer assessment affords students much more immediate and frequent feedback than one instructor can possibly provide, advantages that compensate for irregular quality (Topping, 1998). Most importantly the research finds that peer learning and assessment help students develop communication skills, the ability to collaborate, critical thinking, and habits of life-long learning (Dochy, Segers, & Sluijsmans, 1999; Topping, 1998). Peer feedback then is well worth improving.

What's Wrong with Student Peer Feedback?

The studies cited above enumerate the common shortfalls of student peer feedback: too lenient or uncritical; focused on whether the evaluator likes or agrees with a work rather than its quality; overly critical and harsh; inaccurate; superficial; focused on trivial problems and mechanical errors; focused too much on content alone; unrelated to the assignment's requirements; and not referenced to specific instances in the work. A brief analysis of this list suggests three main causes for these weaknesses, two of which are supported in the literature.

1. Emotions and loyalties intrude, making most students reluctant to find fault with a fellow student's work and inducing a few to trash the work of someone they don't like (Strachan & Wilcox, 1996; Pond, Ulhaq, & Wade, 1995).

2. Students lack the disciplinary background to know, let alone to apply, professional expectations and standards, so they don't know how to give helpful feedback (Svinicki, 2001). No doubt if they did know how to write a clear thesis statement, a logical argument, a convincing conclusion, etc., they would do so at least to get a good grade.

3. Students fail to put adequate effort and care into analyzing each other's work and giving constructive, detailed feedback – in part because the peer-feedback questions may not require them to. When

a question explicitly asks only for a yes or no answer, students may not know enough to give a justification or to refer to particulars in the work. In addition, since the questions usually ask for an “opinion,” students at a certain level of cognitive development may believe that one opinion is as good as another, justified or not. Besides, students reason, the only opinion that matters is the instructor’s, so their peers aren’t the real audience anyway.

Forms That Improve the Feedback

Consider what the items below ask a student to do:

- What do you think is the thesis of the paper (or speech)?
Paraphrase it below.
- List below the main points of the paper.
- What are the writer’s justifications (e.g., readings, logic, evidence) for taking the positions that he or she does?
- What do you think is the strongest evidence for the writer’s position? Why?
- What do you think is the weakest evidence for the writer’s position? Why?
- In each paragraph of this paper, underline the topic sentence.
- Highlight any passages that you had to read more than once to understand what the writer was saying.
- Bracket any sentences that you find particularly strong or effective.
- Put a checkmark in the margin next to any line that has a spelling, grammar, punctuation, or mechanical error. Let the writer identify and correct the error.
- What do you find most compelling about this paper?

These items share several features. First, rather than requiring a judgment or opinion, they ask students either to identify parts or features of the work, as each student sees them, or to give their personal reactions to the work. They are neutral and unemotional. Second, they require attention to the work but not a sophisticated level of judgment. Students only need basic knowledge about essay writing, rhetoric, and mechanics to give a meaningful response. Third, these items require students’ keen focus on the work, close attention to its detail, and specific references to it. Picking out aspects of content, organization, and mechanics may call for several readings during which students must actively apply what they are

learning about the subject matter and communication skills. Of course, individual students will miss certain mechanical and spelling errors, but a small group should catch most of them.

This type of feedback influences the writer's or speaker's revisions in a different way from an evaluative critique. For example, if different peer reviewers identify different theses, then the creator knows that she didn't make herself fully understood and will have to make her thesis statement clearer. She might even add a sentence or two stating what she isn't arguing. Similarly, if most of the reviewers miss a main point, a key justification, or an important piece of evidence, she knows that part of her message was overlooked and needs more emphasis. Of course, less attentive students may miss some points that were made quite clearly, just as members of any audience read or listen carelessly and miss important points of a news story, article, or speech. This reality should drive home to students the importance not only of expressing themselves clearly but also of attracting and holding their audience's interest.

The personal reactions of the audience can also provide helpful information. What reviewers find to be the strongest and weakest evidence informs the creator about which content to highlight and which to downplay or edit out. What they bracket as "particularly strong or effective" tells him what he is doing right and should do more often.

In summary, when peer feedback focuses on identification tasks and personal reactions, students realize that the measure of their success as writers and speakers is how well they communicate their message to their peers as well as the instructor. They also realize that their peers' feedback is genuinely meaningful and important. As a result, peer feedback then informs self-assessment, which is a powerful life-long learning tool.

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Improving Teaching through Classroom Action Research

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Teaching and learning centers provide an array of programs and services to assist the instructor who is struggling or the excellent teacher looking for something new. The pedagogical tools suggested can range from collaborative group work to problem-based learning to on-line instruction (see, for example, Nilson, 1998). The dilemma facing the individual instructor is choosing from a myriad of teaching strategies to use in a particular classroom situation. Factors such as class size, content area, and student demographics play a role. The instructor's own skills and style are also critical factors. Classroom Action Research (CAR) is systematic inquiry with the goal of informing practice in a particular situation. CAR is a way for instructors to discover what works best in their own classroom situation, thus allowing informed decisions about teaching. CAR occupies a midpoint on a continuum ranging from teacher reflection at one end to traditional educational research at the other. It is more data-based and systematic than reflection, but less formal and controlled than traditional educational research. Instructors use data readily available from their classes in order to answer practical questions about teaching and learning in their classrooms. Further CAR integrates the two faculty roles of teaching and scholarship and is one form of the scholarship of teaching and learning (Cross & Steadman, 1996). Methods of conducting classroom action research projects are diverse, and easily mastered by faculty from any discipline.

Steps of Classroom Action Research The CAR process includes seven manageable steps. Instructors may complete small

projects within a single semester, while projects more ambitious in scope might require planning ahead or collecting data over several semesters. Step 1: Identify a question. A good question has three major qualities. First, the question is significant to your classroom situation; that is, you think that it might make a difference in student learning. Second, the research findings will lead to action, such as keeping or changing a teaching strategy. Third, the question should lead to a project that is feasible in terms of time, effort, and resources.

Some questions seek to describe, such as, "How many of my students read the assignments before coming to class?" Other questions may look for relationships, such as, "Do students who participate frequently in class do better on the exams?" Many questions take the form of "How does X affect student learning?" For example, "Are students' test scores higher when I use case studies?" Or "Do students pay more attention and perform better on exams when I use presentation software (such as PowerPoint)?" Good questions might involve using a particular teaching strategy, a change in course structure or materials, or different assessment techniques. Step 2: Review the literature. You need background information on your question, but a brief review of secondary sources is adequate for these purposes. One good source of information is general books on teaching, often available through your teaching and learning center. Another excellent source is the Educational Resources Information Center (ERIC) database, which indexes teaching-related publications of all types. You can search the database at <http://ericir.syr.edu/>. The information from these sources may help refine your question and choose your method of research. Step 3: Plan a research strategy. There is no single best strategy for data collection. Depending on your research question, you might gather data about individual students or an entire class.

You might describe a single situation (e.g. skills of entering students), look at the relationship between different types of data (e.g. student age and use of on-line office hours), or look for cause and effect relationships (e.g. the impact of homework assignments on test performance). Although a tightly controlled experimental design is usually impractical, you can use a quasi-experimental design such as comparing student outcomes from two sections of the same course. You should check with your Institutional Review Board about

policies regarding human subjects. Your project may qualify for expedited review if it uses regular classroom procedures, adult students, and does not identify individual students. Step 4: Collect data. This data could be quantitative (e.g. test scores, grades, survey results) or qualitative (e.g. dialogue from focus groups or class discussions). Start with data that you already have, such as assignments, exam scores, and teacher evaluations. If more information is needed, choose data that is fairly easy to collect and analyze. Angelo and Cross (1993) provide a comprehensive set of assessment tools, along with excellent advice on their use. In general, you should try to collect several different types of data to see whether results are consistent. This triangulation provides a measure of validity. For example, you might assess the effectiveness of your new group activity on student learning by looking at exam grades, comments during a class discussion, and observations of behaviors while in the groups. Student evaluations of teaching also yield useful information. Comparisons between data from students who were taught in different ways (usually in different course sections) can also be informative. Step 5: Analyze data. The goal of data analysis is to look for patterns. Did your teaching strategy result in better student performance on exams compared to their pre-tests or to another group of students? Were their comments in class more in-depth? A simple grouping of comments by themes or a table of average test scores will reveal any major trends in the data. If statistical tests are desired, Bruning and Kintz (1997) offer a very user-friendly guide. Step 6: Take action based on results. Your research findings should inform your teaching decisions. If the new strategy increases student learning, you would continue to use it in that teaching context. If it does not increase student learning, you might return to your old strategy, or continue to test new strategies. You might also consider the time and effort required for a new strategy—is a small learning increase worth the trouble? Step 7: Share your findings. Teaching can be a solitary activity, with successes and failures rarely acknowledged to others. Sharing your CAR findings can provide an exciting forum for discussions on teaching. Results can be shared informally, through departmental or teaching center brown-bags, or more formally at teaching conferences. Many projects are suitable for inclusion in the ERIC database. (See the ERIC website for submission information.) CAR findings might be submitted for publication, particularly when they describe more extensive projects

or a series of related projects. General journals such as *College Teaching* or teaching journals within the discipline might be appropriate venues. Another forum is the *Journal of the Scholarship of Teaching and Learning* (<http://www.iusb.edu/~josotl>), which includes a section for Classroom Action Research.

Why you should try Classroom Action Research

Improve your teaching. CAR will help you discover what works best in your own classroom situation. It is a powerful integration of teaching and scholarship that provides a solid basis for instructional decisions. CAR's easily mastered techniques provide insights into teaching that result in continual improvement. Document your teaching. Course materials and teaching evaluations are a good beginning for documentation, and peer observations and student work samples add depth. CAR adds a new dimension to documentation by providing both a measure of teaching effectiveness and a record of continuous improvement. These projects are particularly appropriate for teaching portfolios, where they complement descriptions of teaching strategies and student learning. Renew your excitement in teaching. CAR provides a new lens for examining your teaching. Learning the methods of conducting CAR projects can provide an interesting challenge, and discussing your project findings can open a whole new area for teaching discussions with colleagues.

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Team Teaching: The Learning Side of the Teaching - Learning Equation

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We live in the high tech information age. Increasingly, the spotlight is on knowledge construction and the ability to work with other people in teams, whether in education and human service work or in “knowledge creating companies”. More than ever, those of us who teach in higher education are expected to help learners develop their critical thinking skills. Our job is ultimately to enable students to integrate new information from a variety of disciplines so they can become ongoing constructors of new knowledge, both on an individual level and with others in a social context. It is our belief that team teaching is an overlooked “low tech” alternative for facilitating the kind of learning that develops skills in critical thinking and new knowledge construction. Our unabashed advocacy of teaming is rooted in our experience. Mary Jane has taught for several years in an interdisciplinary undergraduate program, comprising over twenty team-developed and team-taught courses. Libby has partnered frequently with colleagues and students to conduct classes and research. Together, we co-edited a sourcebook (Eisen & Tisdell, 2000) on this very subject of team teaching and learning. Thanks to our contributing authors, we were able to enliven the team teaching and learning process by presenting a number of applications from the authors’ diverse practice settings.

These applications include both conventional college classrooms and a cyber classroom, a corporate action learning program, a community-based social action initiative, a volunteer-based literacy program, a national diversity training project, and our own writing collaboration. In all these instances, we saw the versatility of teaming as a vehicle for interdisciplinary education, the incorporation of multiple perspectives of diverse populations, and collaborative learning. At the same time, teaming is a teaching and learning alternative, not a panacea.

Common to diverse team teaching-learning situations is the centrality of: (1) negotiating relationships; (2) providing a relevant and integrated curriculum and pedagogy; and (3) focusing on the participants' ongoing construction of knowledge. In the remainder of this essay, we expand on these three ideas and the way they cement the teaching-learning connection which we believe is at the heart of team teaching.

Negotiating Relationships

As Davis (1995) notes, all team teaching efforts “include two or more faculty in some level of collaboration in the planning and delivery of a course” (p.8). Implicit in this statement is the collaborators' need to attend to their relationship with each other. What must be made explicit, however, is the need to attend to the relationship with students. Teammates have to share power and responsibility for the course, not only among themselves, but with the learners so that they can take some responsibility for their own learning. McDaniel and Colarulli (1997) elaborate four dimensions of relationship and power issues in teaming and suggest that, when faculty agree to team teach, they consider the degrees to which they will collaborate in the following areas: curricular integration; faculty-student interaction, student engagement, and faculty autonomy.

Further, there are many models of team teaching, and different teams operate in different ways. For instance, Watkins and Caffarella (1999) identify four types of teams based on variations in working style: parallel teaching, serial teaching, co-teaching, and co-facilitation. In all four perspectives, there is a subtle focus on teacher control that blurs the essential relationship between teaching and learning. We advocate sharing power with students and including

them in some of the decision-making about their own learning. We believe this facilitates critical thinking and students' ability to see themselves as constructors of knowledge. As Goodsell, Maher, Tinto, Smith and MacGregor (1992) note: "Collaborative learning reforms classroom learning by changing students from passive recipients of information given by an expert teacher to active agents in the construction of knowledge" (p. 4).

Integrated Curriculum and Pedagogy Because team teaching emphasizes negotiating relationships and sharing power both among the teachers and with students, it facilitates the reform of classroom learning that Goodsell et al . speak about. At the same time, teaming supports integrated curriculum design, collaborative learning, and a collaborative pedagogy. In regard to the curriculum, multiple viewpoints and often different disciplinary perspectives presented by teaching partners broaden students' understanding of knowledge. In addition the teaching team itself, especially multicultural and multidisciplinary teams, can serve as a role model for ways of constructing knowledge that are likely to be more inclusive. On the curricular level, teams can be more inclusive of varied perspectives (e.g., disciplinary, cultural, social/political), which in turn enhances critical thinking. On a pedagogical level, the use of different methods such as active learning, team projects, creative expression, on-line activities, and independent study promotes greater inclusion at the same time that it addresses learners' diverse learning styles and needs. In short, the team's interaction with students and with each other can give students some real-life experience in creating new knowledge together from multiple perspectives. A collaborative pedagogy also acknowledges that teachers can be learners and learners can be teachers. Thus two or more professors working together may derive incidental or planned professional development benefits by learning from each other about their respective fields and their pedagogical techniques. They may also support each other in teaching experiments and in conducting classroom research with students about their own learning in a collaborative way (Cross & Steadman, 1991). Additionally, there is potentially great satisfaction in learning from one's students, and a collaborative pedagogy, by design, will result in such learning. It is important to put students in official knowledge-creating roles in the classroom so they have a sense of how to create knowledge

individually and collaboratively. For instance, students may participate in individual and/or team projects where they report their findings from their own primary and secondary research on a topic of their choice. Melissa, a graduating senior, recently captured the value of her teaching role in one of Mary Jane's classes this way: This was one of the few projects that I got to work on here at the university where I...had control of what I wanted to learn...the professor wasn't feeding us information to just spit...back at her...We were able to present our thoughts in our own way...I feel that the best way...to learn is to challenge our minds and give us the opportunity...to work on topics we like and present them back to our peers. (Lai, 2000)

The Ongoing Construction of New Knowledge

As mentioned, a key feature of teaming is the ongoing construction of knowledge by teachers and by students. Too often students see formal researchers as constructors of knowledge, and teaching faculty as disseminators of knowledge. But team teaching and a collaborative pedagogy enhance the possibility that students will see themselves and their peers as constructors of new knowledge. Robinson and Schaible (1995) remind us that the success of collaborative pedagogy depends on how effectively team members practice it. In their words, "[i]f we preach collaboration but practice in isolation...students get a confused message. Through learning to 'walk the talk,' we can reap the double advantage of improving our teaching as well as students' learning" (p. 59) in the task of jointly creating new knowledge. Team teaching is one mode for developing more critically reflective learners who engage in the ongoing construction of knowledge in a knowledge-creating society.

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Creating a Culture of Co-Learners with Problem-Based Learning

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With roots in medical education, problem-based learning (PBL) has spread throughout professional education to undergraduate as well as K-12 programs. Although there is significant variation among PBL practitioners, PBL is distinguishable from other case-based or problem-solving methods in that “the problem is encountered first in the learning process” (Barrows & Tamblyn, 1980, p. 2). Students typically work in small groups with coaching from their facilitator, a faculty member in the ideal situation, but students may also be trained for this role. Through inquiry and application of prior knowledge, students reason through problems (i.e., situations that present unresolved or perplexing issues from the standpoint of the learners), identifying areas where their current knowledge is insufficient. After a period of self-directed learning in which students determine their own strategies for pursuing their individual and collective learning needs, they return to the group setting to apply their newly acquired knowledge back to the problem situation, identifying new learning needs as they emerge.

Creating a Learning Culture

PBL originated in the late 1960’s when a new medical school opened at McMaster University. Interestingly, PBL emerged from practice rather than theory, based on a small group of medical educators’ dissatisfaction with the traditional curriculum and its outcomes. Howard Barrows (2000a), one of the original McMaster

faculty members, complained that “students were passive and exposed to too much information, little of which seemed relevant...They were bored and disenchanting” (p. vii). This concern has been expressed throughout all levels of education and has stimulated significant interest in PBL as well as other learner-centered pedagogies. To address these problems, the McMaster faculty designed an educational system centered on learning rather than teaching. Instead of discipline-based courses and topics conveniently organized to match the expertise of the faculty, their innovative curriculum contained real medical problems presented as they occur in real life. Underlying basic science concepts were naturally integrated with clinical applications. This integration allowed even first year medical students to practice “doing what doctors do” while learning information relevant to their future professional lives. Roles and responsibilities of students and teachers also reflected this new learning culture. Rather than passively absorbing neatly packaged lectures presented by the faculty according to a pre-set schedule, students confronted realistic problems in small group settings guided by faculty who were carefully trained to facilitate, rather than lead, the student-generated discussions. Encouraged to investigate their learning needs first, students primed with new knowledge consulted faculty experts for help with difficult concepts or further guidance to pursue their questions. Although these changes challenged many core beliefs and expectations about education, they were made solely for the purpose of empowering learners. In this environment, students became actively engaged while investigating and solving problems, developing the ability and willingness to monitor and assess the adequacy of their knowledge and skills as well as continue learning as a lifelong endeavor.

Recognizing the Challenges

Rules and responsibilities traditionally assigned to teachers and students must shift dramatically to truly empower students as self-directed learners. By taking responsibility for his own learning, "the student learns to determine what he needs to know" (Barrows & Tamblyn, 1980, p. 9). This aspect of PBL is crucial to developing active, intrinsically motivated, self-determined, lifelong learners.

Many PBL courses and curricula are teacher-centered in subtle

ways. Facilitators may intentionally or unintentionally give students too much guidance during group sessions by providing information, correcting students' thinking, asking pointed questions, or answering questions that should be pursued as learning issues. Students may encourage these behaviors. However, if student-dependence on faculty continues, students will fail to take responsibility for their own learning. PBL then becomes a "game" of trying to guess what the teacher-intended learning issues are and what will be on exams.

Barrows (2000b) recommends that PBL practitioners "closely monitor the many ways in which the teacher-centered, parental approach to teaching works its way back into the process, as it is an all-too-easy reflex behavior for faculty" (p. 96). Successful implementation of PBL requires a thorough understanding and valuing of the component parts of PBL and how one's choices in implementation affect the learners and resulting outcomes.

According to Evensen and Hmelo (2000, p. xi), "PBL runs the risk of becoming something it is not through misunderstanding of its philosophical and epistemological underpinnings and of misapplication through the use of highly simplified methods...[PBL] is a sophisticated design that requires attention to learner and to teacher, to content and to context." Many variables can alter PBL's effectiveness. One such variable is the extent to which students are responsible for their own learning. Others include problem design, faculty development, facilitator methods and skills, competition with other courses, institutional support and acceptance of PBL among faculty and students, and alignment between PBL goals and assessment methods. Since assessment drives learning, the intended goals of PBL will not be realized unless assessment methods reflect these goals. However, use of such assessments threatens many widely accepted values and procedures of traditional education, especially the reliance and over-dependence on "objective" and efficient testing methods.

Assessing the Outcomes

The only large-scale PBL outcome studies published to date have been in medical education. Interpretation of this literature is complicated. First, there is wide variation in PBL implementation as well as a lack of awareness regarding these differences and their

effects on the resulting outcomes. In addition, many articles do not adequately identify nor describe these variables, making it impossible to draw valid conclusions about specific programs. According to Kelson and Distlehorst (2000) , “PBL...has become a generic category [for] any teaching approach that incorporates a patient problem in any format” (p. 180). Variations arise for many reasons including insufficient time and other resource deficits, implementation within a single course or discipline, and lack of trust that PBL will lead to the expected outcomes.

Kelson and Distlehorst urge PBL practitioners and researchers to identify essential elements of PBL and determine which objectives are not achieved when specific elements are modified or completely absent. Norman and Schmidt (1992) identify potential advantages for medical students in PBL curricula compared with traditional programs: increased motivation; enhanced learning, retention, and recall; greater integration of basic and clinical sciences; and better problem solving and self-directed learning abilities.

Although their review of the literature indicates a “paucity of critical research evidence available to address some, if not all, of these questions,” they acknowledge that PBL has “a large and potentially long-lasting impact on self-directed learning skills [and its role] in students’ motivation appears fairly conclusive...[PBL students] find the learning environment more stimulating and humane than do graduates of conventional schools” (p. 564). Blumberg (2000) analyzed the PBL and self-directed learning literature for evidence that PBL students demonstrate self-directed learning skills. Her findings indicate that faculty, students, and medical school accreditation boards perceive PBL as fostering self-directed learning. In addition, PBL students actively use the library, develop study strategies resulting in deep-level processing, and believe they continue to improve their self-directed learning abilities.

According to Blumberg, “much more research [is needed] to better understand how, when, and why PBL fosters the development of self-directed learning” (pp. 224-225). Effective PBL practices can only be identified by rigorously investigating the processes leading to intended and unintended outcomes. Studies should concentrate on the goals of PBL, namely developing learners who demonstrate

initiative and enthusiasm as well as effective problem solving, self-directed learning, self-assessment, and group collaboration abilities. Outcomes must be interpreted in light of the educational culture that produced them. Achieving the intended goals and objectives of PBL ultimately depends on the extent to which the culture in an educational environment shifts from teaching to learning.

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