IN THIS ISSUE: COLLABORATIVE LEARNING

CTE View—Dan Bernstein describes experiences he’s had with collaborative learning and what’s he’s done to make this form of learning better for students and for himself. Page 2.

CTE News—The recipient of the 2005 CTE Department Excellence in Teaching Award is announced. And find out what’s available to you in the Collaborative Learning Environment in Budig Hall. Page 3.

Perspectives—Dan Spencer offers guidelines proven to make student teams work in any course. Pages 4 and 5.

Susan Williams considers how Spencer’s suggestions could be implemented in engineering classes. And an interview with Joann Keyton provides more ideas about using teamwork. Page 6.

Innovations—Susan Zvacek explores ways that technology can help teachers re-envision student collaboration. Page 7.

End Note—Learn nine keys to developing effective student groups, including how to compose groups, what kinds of tasks to give them, and how to evaluate them. Page 8.

Why consider using student teams?

In Using Student Teams in the Classroom, Ruth Federman Stein and Sandra Hurd (2000) suggest ways to supplement conventional justifications for teams (e.g., team activities increase learning, teamwork is widespread in industry and other organizations) by providing four rationales.

1. Constructivist rationale (Fosnot 1996). Some theories portray learning as a process of construction. To understand concepts, students must build them into the structure of their prior experiences. Stein and Hurd note that it is difficult to create such a structure by oneself, especially in an unfamiliar area. “Discussion in small groups of peers makes this undertaking much easier.”

2. Linguistic perspective on learning (Bazerman 1998, 1991; White 1995). This view is based on the premise that when students encounter a discipline or profession, they are being exposed to a specialized language. “Their grasp of a topic is usually evaluated on the basis of their ability to understand questions about it and to write cogent answers. Students are much more likely to develop this linguistic proficiency if they have both informal and formal opportunities to speak, rather than being restricted to listening and reading.”

3. Tacit dimensions of knowledge (Schon 1987, 1983). Many forms of learning can not be reduced to statements in a book or lecture. “Practical skills, intuitive judgement, and social context cannot generally be taught by exposition. Some sort of collaborative activity is required,” (e.g., a team exercise in a marketing course).

4. Habits and attitudes for academic achievements (Bruffe 1999). Higher education can be thought of as a form of acculturation and success as a student as a cultural acquisition. “Academic competence is not just mastering course content: It also involves the formation of attitudes about schoolwork and the acquisition of habits of regular class attendance, consistent and thorough preparation, and disciplined management of time. Interaction with peers in a classroom can help students learn habits and attitudes needed for academic success more easily.”

Like many teaching approaches, using teams well is not intuitive for most of us. Taking a little time to learn how to use groups can ensure better learning for students and more satisfaction for us.

—JE

Reference:
Many students groan when an instructor mentions group work. What was promoted as an effective teaching method has become an often dreaded ritual. It seems strange that helping students be active learners would evolve into something students do not like.

There are many kinds of collaborative learning in use in higher education. At the simplest end, many instructors switch from speaking to a class to structuring conversation among students. In a version referred to as “think-pair-share,” students briefly consider a question posed by the instructor, pair off with a nearby colleague, and then discuss their answers or ideas. Often taking only a minute or two, this method at its best can provide students with an opportunity to learn from each other’s skills or insights. Many people employ this technique as an aid to attention, finding that students are more likely to sustain interest in a presentation if it is punctuated by brief conversations.

At its highest level, collaborative learning uses a carefully managed group process to arrive at a level of understanding that could not be achieved by working alone.

I have tried different versions of collaborative learning, with mixed results. I have had pretty good luck with think-pair-share. Six years ago, I tried some four-person groups. I formed groups based on where people were sitting, and they researched a structured problem and produced a jointly authored paper. I was unhappy with the products, and students were unhappy with the process. There were the now-familiar complaints about free-riders, missed meetings and uneven contributions. The volume of those complaints grew when students tried to allocate effort to revise the paper. I abandoned that approach in a big hurry and have not revisited it since.

Recently I have been interacting with KU Prof. Dan Spencer, whose courses are all organized into team-based projects (see pp. 4-5). As he described what works and does not work in collaborative learning, I felt like he had been a fly on the wall of my classes. My poor results were entirely predictable from his point of view, and I felt challenged by his calm assurances that current KU students can do this work very well.

First, I created groups that have complementary skills, using measures of effective and timely performance along with preferences for learning modes and computer skills. Second, I gave them easy tasks early in the term so they got used to being responsible to each other. Third, following one of Dan’s suggestions that I feared the most, I had them serve in assigned roles with names like Recorder and Communicator. The results have been very encouraging. There were no hassles with a group think-pair-share, and team communications in threaded discussions were civil and productive. They shared some open-ended research conducted in the new Budig collaborative space (though I preserved individual written products). Finally, each person had to contribute results to others in order to complete an individual assignment. During this last project, communication was good and there was plenty of support for common goals.

If you want your students to work together, it can be done by following some of Dan Spencer’s simple guidelines. I have not turned my whole course into a team-based enterprise, but I can attest to the practical wisdom of his suggestions and experience. This version of collaborative learning I will keep doing. An instructor should use carefully constructed collaborative assignments and never use group interaction just as busy work.
Communication studies receives 2005 Department Excellence in Teaching Award

Communication studies has been named the recipient of the CTE 2005 Department Excellence in Teaching Award. Chancellor Hemenway made the announcement at the department’s faculty meeting on April 13.

The award was established to encourage KU departments to engage in programs and activities that support ongoing development of student learning.

As part of the award, the department will receive $12,000 and will be honored at the KU Summit on August 16. In addition, communication studies will be recognized at the Celebration of Teaching reception on May 12.

Advisory board members who chose communication studies noted the department’s exemplary collaboration on student learning and program reflection. Their faculty members have worked together effectively within their department, as well as with several other units on the Lawrence campus. In the last two years, they have undertaken four major initiatives which have resulted in a range of outcomes, from ongoing curriculum reviews at bi-monthly faculty meetings to development of a Communication Studies Research Colloquium for both faculty and graduate students.

CTE considers three areas to distinguish the recipient of this award: establishment of a culture of learning with a focus on innovation and collaboration, systematic reflection on department goals for student learning, and evidence of student learning.

Collaborative Learning Environment opens in Budig Hall

This year, a new space designed especially to facilitate collaborative learning was set up within the Budig Hall Computer Lab.

The area is equipped with one rear projection SmartBoard for interactive presentations, ten wireless laptops for use in the CLE and two desktop computers.

It’s designed for collaborative group work, as developed by an instructor. The SmartBoard can be used for simple projection or for electronic dry erase. More advanced uses allow notations and changes made electronically to be saved into documents. Audio speakers are also built into the SmartBoard for aural presentations. Laptops allow instructors to group students into any areas, for easy mobility. The laptops can also be plugged into the SmartBoard for presentations.

You’ll also find six white dry erase boards located around the area. All tables and chairs are on wheels for easy mobility, for any size group or class. There are two mobile walls for the area, as well, that can partition any size area and create multiple large areas or smaller group areas. The area outside the instructional area includes another eight desktops, on large surface areas where more than one person may work. The front of this area includes comfortable seating and mobile dry erase boards, for informal study areas.

According to Kent Miller, assistant dean of KU Libraries, “More collaborative spaces will be developed. A number of areas are being considered. One space we’re actively engaged in planning a reconfiguration is the west wing of Watson 4th floor.”
A common complaint of students at KU is the poor experience that they have with team projects in their coursework. The first day of class students immediately groan when they learn that team projects will be expected. There is a good reason for this reaction. Students are typically thrust together into so-called “teams” and expected to perform with little or no knowledge about what it takes to be an effective team. They are given no time and assistance to develop into a well functioning team. They are placed in a learning context where the system, both structural and physical, does not support working as a team. I would like to share with you a number of things that I have learned grappling with these issues while teaching my Organizational Behavior course in the School of Business. By the end of that course, students have reversed their expectations about teams and look forward to working in them in future coursework.

The first three days of class I attempt to educate them about the team-based pedagogical approach they will encounter and expose them to basic issues in learning and knowledge building with a focus on experiential learning, critical thinking and reflective practice. I have found that it is essential to provide this rationale prior to establishing their learning teams the fourth day of class. I would like to share with you a number of things that I have learned grappling with these issues while teaching my Organizational Behavior course in the School of Business. By the end of that course, students have reversed their expectations about teams and look forward to working in them in future coursework.

The first Organizational Behavior material that students are exposed to is on groups and teams. I am indeed fortunate that I can draw on this material to jumpstart the team building process. Students draw on this material to organize and structure their teams. A key is establishing a set of roles which students systematically rotate and practice throughout the semester. These roles include primary facilitator, secondary facilitator, spokesperson, scribe, timekeeper, devil’s advocate and “team process critique” writer. This last role involves one student reflecting on the processes of his or her team during a class period and writing up a critique that is shared with all team members before the start of the next class period. This continuous feedback rapidly pushes the students through the process of developing from a mere group to a high performing team. In most classes students are haphazardly thrown together and expected to perform right away. They typically get stuck in what’s known as the “storming” stage of group development. My students, instead, tend to bypass this stage and move from “forming” to “norming” and then “performing.” Especially in the early stages, I exert a large amount of effort observing team behavior and intervening when necessary to coach teams through their development process.

My student learning teams alternate between teamwork and sharing products of their work with the other teams in class. I facilitate the dialogue between the teams and engage in that dialogue myself. I do not lecture. Within the teams, students are expected to self-direct their learning processes. Delegating this authority makes the team truly self-managing, and as a result their tasks are more motivating. However, it is important to have meaningful tasks that will engage students as they analyze, evaluate and apply course concepts. It is especially important to have tasks that require reciprocal interdependence among team members; that is, tasks where all group members must be involved to simultaneously process information and engage in collective sense-making.

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and then pool at the end of the process. Throughout my course I try to get my students to realize that business organizations are moving away from such stand-alone work. In order to rapidly adapt to an increasingly dynamic/complex world, organizations require simultaneous processing of information across diverse areas with the organization. The vehicle that makes this happen is some form of cross-functional committee or team. To engage in this process, students need to develop true teamwork skills that allow them to closely collaborate with others on reciprocally interdependent tasks. They need to experience this in their coursework and develop necessary knowledge and skills to effectively collaborate.

The student’s physical environment is an absolute key in promoting effective collaboration. Movable chairs are certainly a requirement. I have had installed in my classroom 6’ x 8’ writing walls. These white boards allow students to collectively focus on the unfolding generation of their team’s product. Typical tasks require them to brainstorm alternatives to a problem and evaluate and choose alternatives that can then be woven into an action strategy for implementation.

Anyone in the team, not just the scribe, can grab a pen and manipulate information on the writing wall. Based on my experience with this simple technology, I have found that it is essential for engaging all team members in a collaborative enterprise and generating a truly collective product.

One area of concern for me has been the physical environment that students use when they engage in team projects outside of class. I was pleased to see the recent installation of the Collaborative Learning Environment in Room 10 of Budig Hall. This facility has mobile and flexible furniture, wireless laptops, networked desktops, lots of white boards and an interactive white board.

A common theme that has run through everything that I have said here is the critical nature of designing a system that supports and reinforces student teamwork.

The evaluation and reward system must weave a powerful set of incentives that support and reinforce team-oriented behaviors.

One key element of that system that I have not addressed has to do with student performance evaluation. To make it all work, I have found that I need to track and evaluate a whole range of student behaviors. Attendance and tardiness are evaluated to encourage students to be present for their teamwork and start team exercises on time. Also, students must be prepared to meaningfully contribute to their teams. To encourage this, I evaluate and reward the thoroughness of notes over the reading materials that students bring with them to class. The notes serve as an efficient means for students to tap the ideas that they are applying in their team exercises. I also give random essay quizzes at the end of class to motivate engagement throughout the class. The team process critiques, mentioned earlier, are evaluated and graded. As one of their projects, student teams construct their own peer appraisal instruments. These are used to evaluate and reward a whole host of team-oriented behaviors. The essay quizzes as well as essay exams are used to address experiences that students are having in their teams. Team papers are given a team grade; this motivates and reinforces students to work together rather than separately. Also, there is a team paper and an individual paper due at the end of the semester where students reflect back on and analyze their team’s development, as well as their own personal and professional development.

The point here is that the evaluation and reward system must weave a powerful set of incentives that support and reinforce team-oriented behaviors. In my experience, however, many of these incentives are essential for only the first few weeks of class. Once students experience success in their teams and begin bonding with their team members, they want to come to class on time and be prepared because they don’t want to let their team members down. They begin intrinsically enjoying the shared and collaborative environment where they are helping each other to learn at a deeper level.

For a response to Dan Spencer’s article, turn to page 6.
Teamwork disconnect is possible to overcome

Susan Williams, Chemical & Petroleum Engineering

Dan Spencer’s article discusses the disconnect between expectations that faculty have for our student’s ability to function in groups and the tools that we give them to succeed in such a setting. Students’ frustration over developing a well-functioning team is common to every discipline. Many of the ideas presented in the article provide insight into achieving active participation by all team members and structuring the environment to promote effective communication. The struggle for me as an instructor is justifying the use of multiple lectures to discuss the properties of a good team when only a few projects in my course are completed in teams.

In the past I have devoted classroom instruction to development of effective groups, but only in a freshmen level introductory course in which group work was a major component. The course focused on exposing students to tools that would help them succeed in their undergraduate education. Many of these tools, such as good time management, good communication skills, and personal accountability, also increase the ability of the individual to be a successful team member. I was much less concerned with individual assessment of technical skills, which is often difficult to evaluate in group projects.

A recent article in Chemical Engineering Progress discussed a study conducted by the World Chemical Engineering Council. It reported that employees of various chemical engineering companies felt that the ability to work as a member of a team was the most critical skill in the workplace, but ranked sixth in relevance during their education. The study also stated that, based on the definition of education, the instructor’s assessment must focus heavily on the ability of the individual; thus, an educational dilemma exists.

I believe that the techniques outlined in Dan’s article, especially the student reflection and the modification of the physical environment, could be easily integrated into a freshmen course. The ideas presented on the student performance evaluation provide tools that would allow instructors to reinforce teamwork skills throughout the curriculum using smaller projects while still retaining rigorous individual assessment.

Reference

Student groups: Why and how

Joann Keyton, a professor of communication studies who specializes in organizational and group communication, was interviewed recently about her use of groups.

Why do you use student groups?
“Because it’s real world. Complex tasks require teams, so work is team-oriented. Using groups isn’t always convenient or easy, but they help students process information differently. Students develop a deeper understanding because they see more perspectives from group members. They become more responsible for their learning and for their behavior. They see how their work impacts other people. They also learn how they can function well in a group.

“Also, we don’t choose with whom we work—we have to learn to work with them. In school, K-12 kids are grouped according to their interests, but that’s not real world. The more education you have, the more likely [it is that] you’ll need to work in groups.”

What are keys to using groups well?
“First, group students randomly. If students group themselves, they’ll join friends or divide up by abilities. But students need to learn to work with diverse others and develop new skills.

“A group task has to emulate the real-world task or situation you want students to understand.

“Finally, give students time in class to work in their groups. That way, you can monitor groups and give them direction if needed.”
Technology offers ways to re-envision student collaboration

Susan Zvacek, IDS

As professional educators, we may, on occasion, ponder our role as teachers. We may hope, too, that students ponder their role as learners. One way to move this internal, individual conversation to an external, multi-voiced discussion is by expecting students to become actively engaged in their own learning—and in the learning of their peers—through collaboration. To facilitate this conversion, a wide range of technologies exists to connect students to course content (and to their peers) in ways they may not have previously experienced.

While the benefits of student collaboration (for example, learner engagement, an enhanced sense of content ownership, and use of higher-order thinking) are relatively well known, most of the existing research in this area has been concerned with what might be considered traditional student groups and their assigned tasks. That is, students got together, either during class or a mutually convenient time, labored through their assignment, and produced some sort of deliverable. Only recently have studies exploring the use of communication and presentation technologies in student group work, especially collaborative work, begun to appear in the literature.

These studies lead to the conclusion that we can provide a “best of both worlds” approach to collaborative learning and provide an array of options for structuring and implementing these instructional strategies. For example, through the use of electronic communications—discussion boards, e-mail, chat, IM, or blogs—students can share ideas, review others’ work, and disseminate products without the requirement of same-place/same-time scheduling. These technologies, in addition, may leave a trail of evidence for instructors to periodically review to ensure that the groups are making progress and staying on track, and to help reduce the incidence of slacking by group members. Finally, for many students, developing the skills necessary to collaborate in distributed environments, where coworkers aren’t close at hand, may prove invaluable for professional success.

Happily, KU students and faculty now have the option to utilize both face-to-face and remote collaboration tools. Remote tools are readily available within the Blackboard™ course management system; in-person collaboration tools can be found at the Collaborative Learning Environment in 10 Budig Hall. This setting offers both high-tech and low-tech options for creating, collecting, sharing and editing content in a comfortable environment specifically designed to support collaboration. For example, students can check out laptop computers, access the wireless network, display computer output on the “electronic whiteboard,” and annotate (with special markers) those documents, then save them digitally for later retrieval and dissemination. The space also includes easily rearranged furniture, telescoping walls with white boards attached, and tack boards to hang up flip chart pages generated during discussions or brainstorming sessions.

One way the Collaborative Learning Environment can be used is to schedule a class session there to familiarize students with the features, letting them know that they can return, on their own time, to work in their groups. This might include the instructor giving a brief demonstration of equipment, then turning students loose to work on their own as he or she consults with groups individually while they’re all present.

Providing the most useful tools to facilitate collaboration, whether for real-time, face-to-face work or for asynchronous, remote activities recognizes that students have an important role to play in their own learning. If you’re interested in integrating student collaborative work into a course by using technology, call or e-mail IDS (864-2600 or ids@ku.edu), and we’ll be happy to suggest ways you can get started.
Nine keys to developing effective student groups

In their well-regarded work *Team-Based Learning: A Transformative Use of Small Groups in College Teaching*, Larry Michaelsen, Arletta Bauman Knight and L. Dee Fink provide a multitude of suggestions for implementing student teamwork, ranging from designing team assignments to calculating evaluation scores to using teams in a variety of instructional settings (e.g., large classes, traditional contexts, interdisciplinary courses, and courses with online interaction).

Below are nine research-supported keys that the authors identify for developing effective student groups.

**How large and how diverse should the groups be?**
1. At least five; preferably six or seven members.
2. As diverse as the class membership allows.

**How should the groups be formed?**
3. By the instructor and in a manner that assures:
   - Equal diversity and skills across groups
   - Perceived fairness of the member allocation process

**How long should group membership remain stable?**
4. Permanently (within the limits of normal school terms)

**What kinds of group tasks/assignments are most effective?**
5. Assignments based on joint (not independent) tasks to:
   - Ensure content-related give-and-take discussions
   - Provide a basis for peer teaching/learning
   - Promote group development
6. Too difficult for individuals, but challenging for groups
7. Based on issues of inherent interest to students

**What kind of performance/reward system should be used?**
8. Must include measures of and rewards for:
   - Individual member contributions to their group
   - Group performance

**How important is timely performance feedback?**
9. Essential for the development of:
   - High member motivation
   - Effective group functioning