text, visuals, and video, the tutorial is an interactive, Web-based example of active learning. The tutorial is available online.

Because students learn more effectively when the context for the lesson actively mirrors the workplace, Amy Newman has created the Writeaway Hotels simulation to teach email skills. By taking on various organizational roles, students learn to manage and reply to the myriad messages they will undoubtedly receive on the job. Like Gareis, Newman also provides a Web address for the site.

In the final article, J. A. Rice acknowledges that students often find it difficult to consider both the rhetorical and ethical dimensions of a business scenario as they write. To overcome this problem, he describes an exercise that requires students to intentionally introduce unethical elements into their writing assignment. Using message boards, students then discuss the probable repercussions of such deception both to themselves as employees and to other organizational stakeholders.

LEARNING BY DOING: ENGAGING STUDENTS THROUGH LEARNER-CENTERED ACTIVITIES

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WITH A SHIFT of focus from teaching to learning in higher education, teachers often look for strategies to involve students actively in the learning process, especially since numerous studies have demonstrated that a student's active involvement in the learning process enhances learning. Active learning—or variations referred to as interactive instruction, experiential learning, or "learning by doing"—has resulted in positive learning outcomes (Benek-Rivera & Matthews, 2004; Bonwell & Eison, 1991; Picciano, 2002; Sarason & Banbury, 2004; Sousa, 1995; Watkins, 2005; Weimer, 1991). Most experts agree that students learn best when they take an active role in the education process, discussing what they read, practicing what they learn, and applying concepts and ideas (Davis, 1993). In this article, we briefly discuss what active learning is and why teachers should consider using active learning strategies. We then demonstrate

how to implement active learning by describing an activity we have found effective in the classroom.

The Foundation of Active Learning

Active learning as defined by Bonwell and Eison (1991) is "anything that involves students in doing things and thinking about the things they are doing" (p. 2). Some general characteristics of active learning include the following:

- Students are involved in more than listening.
- Instruction emphasizes the development of students' skill more than just transmitting information.
- Students develop higher order thinking skills (analysis, synthesis, evaluation).
- Students are engaged in activities (e.g., reading, discussing, writing).
- Students explore their own attitudes and values (Bonwell & Eison, 1991, p. 2).

Active learning as an approach to instruction provides opportunities for interaction and involvement through controlled activities and instructional interventions. Built upon the tradition of Locke, Dewey, and others, the approach posits that *experience* provides a rich resource for learning that helps learners understand and retain knowledge in unforgettable ways (see, e.g., Dewey, 1938, and Locke, 1693/2000). More than 80 years ago, Dewey (1926) recognized the value of using active learning strategies in the classroom by asking, "Why is it, in spite of the fact that teaching by pouring in, learning by passive absorption, are universally condemned, that they are still so entrenched in practice?" (p. 46). Learning by doing involves active participation in a planned event, an analysis of and reflection on what's experienced, and the application of principles learned to school, work, and life situations.

How to Implement Active Learning

Active learning consists of more than just any *activity* that students participate in. The activities, experiences, or interventions must be focused around clear objectives. The Puzzle Brain Spark activity described in this article (adapted from Newstrom & Scannel, 1998)

begins with an observation and individual reflection through writing, progresses to paired sharing, and ends with a class discussion and application. Informed by experiential learning, a specific type of active learning, we have found that a four-step learning cycle is a useful framework in implementing meaningful activities: (1) experiencing, (2) reflecting, (3) generalizing, and (4) applying (Ukens, 2004). Step 1: *Experiencing* involves some planned activity learners engage in. Such activities frequently involve interactions with others, an additional benefit of active learning in that students work together, appreciate differences, build on individual strengths, share responsibility for learning while engaged in the learning process, and work toward common goals. The activity provides a shared experience upon which reflection and class discussion can build. Step 2: *Reflecting* requires students to reflect and to work at formulating meaning from the activity. Step 3: *Generalizing* invites learners to extend meaning from an activity by making connections to and finding patterns in their own lives. Step 4: *Applying* encourages students to apply what they experience in class, working to make meaning applicable. Said another way, this framework moves students through three stages of questioning to find meaning: What? Now what? and So what?

Example: Puzzle Brain Spark Activity

Objective

To use the metaphor of a jigsaw puzzle to help students understand and apply the characteristics of effective teams.

Materials Required

A slide of puzzle pieces (see Figure 1), puzzle piece shapes displayed on an overhead projector, or pieces from a puzzle distributed to individuals or groups.

Procedure

Show the slide or project the shapes of puzzle pieces to the class (or distribute actual puzzle pieces to students). Ask students to write down individually all the ways they see that the puzzle pieces are similar to how an effective team is created and functions. After 3-5

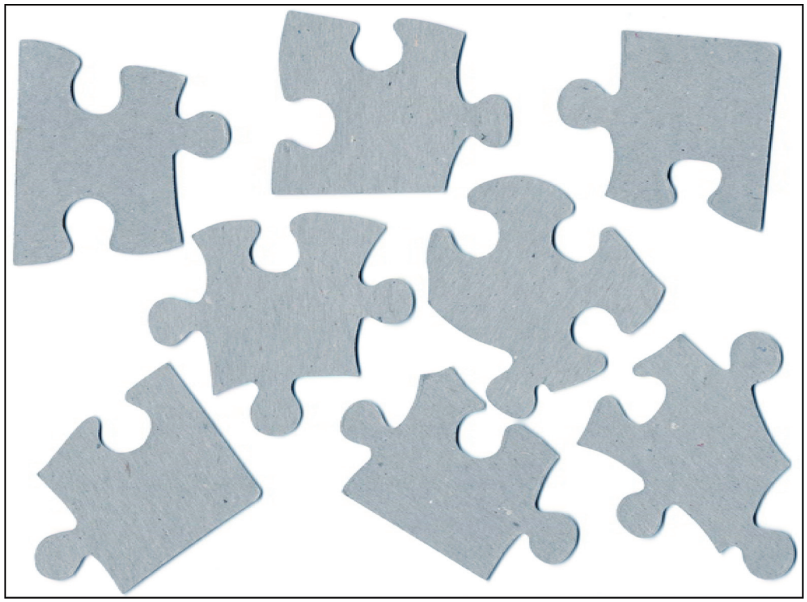

Figure 1. Jigsaw Puzzle Brain Spark: How Are Puzzle Pieces Like an Effective Team?

minutes of writing, have students stand up with what they have written about the puzzle pieces and pair up with one other person in the class to share their responses. After each person in the pair has shared his or her response, they may sit down. Then solicit from the class something about teams that they had written or that their partner shared. As a conclusion, solicit ways the ideas shared apply to the work they have done or will do in groups, allowing students to share personal examples as appropriate.

The Puzzle Brain Spark activity applies several principles of active learning. First, it requires students to engage actively with a concept through thinking and writing. Rather than telling students about connections the instructor sees between the puzzle pieces and teams (or merely listing the elements of effective teams for students), this approach requires students to draw upon their own experiences and frames of reference. Further, students must articulate these thoughts in writing, an active task that requires them to formulate thoughts and

clarify meaning. Then students stand, pair off, and share their lists. This procedure facilitates two important elements of learning—(a) actual physical movement that physiologically keeps the brain engaged and (b) sharing in a nonthreatening setting where students have clarified meaning in writing and share with an audience of one other student. If desired, the instructor can request that individuals pair up with someone they don't know well or can assign pairs.

After the paired sharing, the instructor solicits comments from the class to promote discussion, asking students to share what is on their list or what a partner shared. Requesting participation in this way can persuade those students to contribute who typically are reluctant to voice their own opinions. Frequently, the pair teams have some of the same ideas, and some students feel more comfortable in saying, "We discussed . . ." or "My partner indicated that, . . ." to shift the focus of an idea from self. Sharing ideas with one other person gives quieter students the courage to then speak in front of the whole class (in this instance, reinforcing a concept of the Puzzle Brain Spark that every piece of the puzzle is critical to gain the whole picture).

Some of the possible parallels of the puzzle pieces to effective teams may include ideas similar to the following:

- Puzzles have boundaries (straight-edged pieces and corners), as do effective teams (ground rules or operating assumptions).
- Each piece of the puzzle is unique (like people) and has its own part of the picture to add to the whole (everyone adds meaning to the whole in effective teams).
- Some puzzle pieces are outward, others more inward, but both are important (as are differences in people, some of whom are extroverted and others introverted).
- It's sometimes helpful to view the whole picture to see where the pieces fit in (just as teams need a clear vision of where they are headed to successfully complete the subtasks of the overall goal).
- No single piece has the whole picture (just as no one person has all the answers).
- The "solution" (both to puzzles and to team projects and dynamics) is sometimes fragile.

A discussion of such parallels provides a pool of shared meaning that instructors can then build upon to discuss experiences students have had or will have with teams in this and other courses. This activity at the

beginning of a semester provides a foundation from which teams can build a set of ground rules or operating assumptions to govern group work in the class. For example, if every team member is vital to the success of the team just as every piece of the puzzle is important to the whole picture, a ground rule for the group may be to seek input and ideas from every member of the group. Talkative individuals who may dominate group discussions can be reminded of the need to solicit ideas from the less vocal team members; quieter members of the team can be reminded of the need to speak up and let their views be heard. Having groups formalize and submit a set of ground rules as a follow-up provides a reinforcing activity that may help teams function more effectively throughout the entire course.

This activity could also be used as a midpoint check-up or in connection with a final team evaluation: Do student teams function according to the principles listed? If not, what can be done to change the team dynamics? Through this activity, students have an opportunity to clarify ideas and determine priorities about what makes an effective team and apply that meaning to their own individual experience. It also provides a shared language for discussing the performance of teams throughout the course.

Conclusion

The Puzzle Brain Spark activity provides an example of instructional intervention that allows students to engage in learning and find personal meaning in content. Focusing on the student has always been considered a crucial ingredient of effective teaching. Active learning strategies, such as the Puzzle Brain Spark, are student-centered rather than teacher-centered and often require skills and abilities different from traditional teaching methods. In addition to being extremely organized, teachers must thoroughly plan activities in advance and accept new risks involved with sharing control of the classroom with the students. The crucial first step in using active learning strategies is the willingness of teachers to change their beliefs and to risk changing their approaches to teaching. Lectures and other forms of instruction may be appropriate at times and may include active components, but as we seek ways to enhance learning, active learning strategies hold the promise of more engaged students, with deeper learning and a greater ability to solve problems and

think critically. And students and teachers alike can have a little more fun in the process.

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USING TEACHING TEAMS TO ENCOURAGE ACTIVE LEARNING

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TO HELP CREATE an active learning environment in my business communication classes, I divide students into "teaching teams" during