Thriving in Academe

Seven ways of learning

When faced with a bewildering array of teaching options, focus on learning.

BY JAMES R. DAVIS
AND BRIDGET D. AREND

Navigating the "how-to-teach" industry of ideas

College teaching has always been challenging, but it is becoming downright difficult these days. As a faculty member you face heightened expectations around using technology, assessing learning, and teaching new subjects to a diverse population of students. The professor's once privileged store of knowledge is now readily available in digital libraries and on the Internet. The lecture paradigm, while still the dominant mode of teaching in most institutions, is increasingly regarded as obsolete. As a conscientious teacher, you want to make intelligent and creative choices about your teaching, but sometimes you just don't know what to do.

It is not for lack of advice. To the contrary, college teachers today are confronted by a dazzling array of bewildering options. Professors, like tourists on resort beaches, seem to attract vendors—not just vendors of products, though these are plentiful, but vendors of ideas. What you are offered in lieu of hand-woven blankets and silver jewelry are active learning, problem-based learning, learner-centered teaching, inquiry-based teaching, andra-gogy, learning styles, left- and right-brained thinking, cooperative learning, collaborative learning, flipped classrooms, as well as hybrid and online teaching. Some of these are good buys; others not so much.

The question is: how should you craft effective teaching within this confusing vendor environment? The answer is to remain purposeful and base your teaching methods on your intended learning goals.

Sorting through the scholarship

The 20th century produced a significant amount of research and theory building about learning. After years of studying the literature and analyzing the research trends, we believe it is possible to delineate seven discrete areas where research and theorizing have taken place. We prefer to call these areas *ways of learning.*

Effective teaching based on these ways of learning will be informed, first and fore most, by the goals of learning. The first question a professor should ask is: What am I trying to teach? What is it I really want my students to be able to do? Learning outcomes must be thought through very carefully and there are many resources to help instructors identify the true goals of each class (see References). The next question is: What kind of learning do those goals involve? The faculty member should select the way of learning that is most likely to produce the desired learning outcome.

Meet James R. Davis and Bridget D. Arend
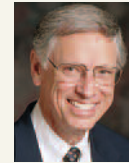
James R. Davis is professor *emeritus* of higher education and adult studies in the Mogridge College of Education at the University of Denver. Most recently, he was dean of University College, the University of Denver's professional and continuing education college. He is the author of seven books, including *Better Teaching, More Learning* (1993), *Interdisciplinary Courses* and *Team Teaching* (1995), and *Learning to Lead* (2003). He can be reached at adelbdavis@gmail.com.

Bridget D. Arend is the director of university teaching at the Office of Teaching and Learning at the University of Denver. She organizes and facilitates teaching-related initiatives for faculty and has consulted in the areas of teaching, learning and assessment for more than 15 years. She publishes in the area of online learning and educational technology, and can be reached at bridget.arend @du.edu. With James R. Davis, Arend co-authored *Facilitating Seven Ways of Learning: A Resource for More Purposeful, Effective, and Enjoyable College Teaching,* a topic on which they frequently present.

TALES FROM REAL LIFE > FINDING THE PURPOSE OF A COURSE

When I first started teaching, I tried very hard to use effective course design processes. I carefully chose my readings, decided what content was most relevant, and created engaging assignments based on my learning goals.

Yet one course always nagged at me. The course was based on a five-level framework that students used to create their own program evaluation plans. While we discussed the framework in depth, I was often utterly perplexed to discover some students not using it appropriately in their final projects.

Then I began working with Jim Davis on his "Seven Ways of Learning." That's when it struck me: What I was really trying to do was teach students to make decisions about program evaluation based on this five-level model. I had not seen before that this course was based on the *learning with mental models* way of learning!

After I realized the course was teaching students a mental model, I could facilitate more appropriately. Now, every week I spend time walking through the model and providing opportunities for students to practice relevant decision making, using all of the strategies recommended for learning with mental models. I am able to focus my time and efforts appropriately. And I am much happier when it's time to grade student projects!

— *Bridget Arend, University of Denver*

Teaching needs to be firmly grounded in goals and aligned with a particular way of learning. You do not want to use group work just to convey information, nor should you lecture when the goal is to teach a skill. Our work outlines which way of learning is best suited to bringing about desired outcomes.

1 Goal: Building skills
Way of learning: Behavioral learning
Methods: Tasks and procedures, practice exercises

ARE YOUR STUDENTS learning a skill where accuracy, precision, and efficiency are important? Is it based on a routine set of mental or physical operations? Can it be broken into steps and performed in a right or best way? These learning outcomes are well served by *behavioral learning*. Behavioral learning is based on behavioral psychology. Such skills are best learned when tasks are broken into concrete steps and practiced by students with the support of precise and timely feedback.

2 Goal: Acquiring Knowledge
Way of learning: Cognitive learning
Methods: Presentations, explanations

DO STUDENTS NEED to learn new ideas, terminology, or useful theories? Must they figure out how something functions, or understand and retain information? These learning outcomes are best served by *cognitive learning*. Cognitive learning is based on the psychology of how people pay attention to, process, and recall information. When instructors use cognitive learning effectively, they get students' attention, help them see overall concepts and connections, relate new information to prior knowledge, and make meaning out of information.

"THE FIRST QUESTION A TEACHER SHOULD ASK IS: WHAT IS IT I REALLY WANT MY STUDENTS TO BE ABLE TO DO?"

3 Goal: Developing critical, creative and dialogical Thinking
Way of learning: Learning through inquiry
Methods: Discussions, question-driven inquiries

DO YOUR LEARNING goals involve students being aware of and improving their own thinking? Do they need to criticize information, evaluate arguments and evidence, or reason? Does this learning involve creative thinking or appreciating other people's thinking? These outcomes are best served by *learning through inquiry*. Based on theories of critical and creative thinking and classical philosophy, learning through inquiry involves the instructor asking probing questions to model and make the thinking process visible. Instructors must understand the thinking process and its many elements, provide opportunities for students to practice thinking through meaningful discussions, and provide well-targeted facilitation.

4 Goal: Cultivating problem-solving and decision-making abilities
Way of learning: Learning with mental models
Methods: Problems, case studies, labs, projects

DO YOUR STUDENTS need to learn to solve problems or make decisions? Do your goals involve finding and defining problems, generating solutions, and evaluating and choosing among solutions? Must students weigh the values of different options and predict outcomes? Goals such as these are best served by *learning with mental models*, based on theories of decision making and problem solving. When instructors effectively use this way of learning, they set up the appropriate practice opportunities, help

■ BEST PRACTICES > TEACHING ACCORDING TO A WAY OF LEARNING

The first example: Greg Reihman teaches philosophy at Lehigh University and wants students to be able to analyze and evaluate arguments. Reihman understands and teaches according to the various stages of thinking, from identifying types of arguments and their elements, to being able to apply those elements. At first, Reihman uses basic questions prompts, then begins to dig deeper, involving the students in reconstructing arguments or leaving out steps on purpose to let students fill in the logic gaps. Finally, students demonstrate their ability to identify, reconstruct, and evaluate arguments through short papers. "In this way, as the course progresses, students gain the ability to think critically about arguments and come to appreciate the need for precision and care in such matters," Reihman said.

The second example: Leticia Sara teaches political science at Red Rocks Community College where she routinely puts students in groups to explore controversial issues. In her American government course, she uses a group assignment to teach students about the complexities and various perspectives involved in how our society determines civil liberties. Her students work in groups around a particular civil liberty issue, such as a controversial art exhibit or a religious charity accepting public money. "Normally the students choose a side to defend that they agree with, but a great way of avoiding argument is to encourage students to represent the side they don't necessarily agree with," says Sara. Her goal isn't to have any student "win" the argument, but rather to have students explore all sides and come to appreciate the multiple perspectives involved.

students identify and apply mental models to make decisions, and through their facilitation keep the focus on the process rather than just the outcome.

5 **Goal:** Exploring attitudes, feelings and perspectives
Way of learning: Learning through groups and teams
Methods: Group activities, team projects

DO YOUR LEARNING outcomes involve changing opinions, attitudes, or creating an awareness of multiple perspectives? Do you want students to deal with feelings or cultivate empathy? To build teamwork or collaboration skills? These learning outcomes are best served by *learning through groups and teams.* Based in human communication and group counseling theory, learning through groups builds on the dynamics formed by teams. It is most effective when instructors carefully design, orient, prepare, monitor, and help interpret the learning that occurs within groups.

6 **Goal:** Practicing professional judgment
Way of learning: Learning through virtual realities
Methods: Role play, simulations, dramatic scenarios, games

DO YOUR STUDENTS need to develop professional judgment within a variety of contexts? Is this best practiced in a safe environment? Do your students need to gain confidence and competence in complex situations? These are learning outcomes best served by *learning through virtual realities.* With roots in psychodrama, socio-drama, and gaming theory, learning through virtual realities can range from simple role play to high-tech simulations. Instructors carefully design or select the roles, scenarios or games that have the most potential. Virtual realities often run themselves, but the instructor must suspend, support and debrief the experience.

7 **Goal:** Reflecting on experience
Way of learning: Experiential learning
Methods: Internships, service learning, study abroad

DO YOUR STUDENTS need to get immersed in real-life work, service, or travel? Do your learning goals involve reflecting on and making meaning out of such an expe-

ISSUES TO CONSIDER

WHERE TO BEGIN?

Do I need to give up lecturing?
Nearly all courses include, as a learning goal, the acquisition of information by students. Helping them do so through the cognitive way of learning results in something like lectures. We call them presentations or explanations, and usually they are shorter, more focused, and produce better understanding. But these presentations are best interspersed with other ways of learning.

Will students really be better served?
Employers frequently report that they long for critical thinkers, problem solvers, skilled professionals, people who can work in a team and learn from experience, and persons of good judgment—the same abilities needed for effective citizenship. In order to create

these outcomes in students, they need to be engaged in multiple ways of learning.

Can these ways of learning be used in online or blended-learning courses?
Certainly. The seven ways of learning are focused on the purpose and teaching methods appropriate for various student learning goals. These goals do not change because a course is online. Sometimes the methods are enhanced by technology, other times they need to be adapted. In our book we suggest how this can take place.

What if I want to try all these ways of learning?
It's easy to get excited about new teaching methods, but not all approaches are the best choice for every course. If you focus on solid, well-researched, well-established ways of

learning that match your specific student learning outcomes, you will be making the best use of your time and your students'. Variety of methods is not a bad thing, but there is nothing worse than a teaching method in search of a purpose.

What if I'm not comfortable using other ways of learning?
Once you understand the theory and have time to practice the other ways in class, you will become more comfortable. And when students actually learn, they will become more comfortable, too. Effective teaching that results in real student learning is satisfying. Teaching was meant to be enjoyable!

rience? These learning outcomes are best served by *experiential learning.* Experiential learning has its own theory base but is also informed by cognitive neuroscience findings that show learning is a natural, multisensory process that emerges out of experience. To use this way of learning effectively, instructors may need to match students to their experiences, but most importantly need to help students push beyond superficial reactions to those experiences.

REFERENCES:

Anderson, L. W. and Krathwohl, D. R., et al. (2001) *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* Boston, MA: Allyn & Bacon (Pearson Education Group).

Bloom, B.S., et al. (1956) *Taxonomy of Educational Objectives: The Classification of Educational Goals; Handbook I: Cognitive Domain.* New York: Longmans, Green.

Davis, J.R. & Arend, B. (2013) *Seven Ways of Learning: A Resource for More Purposeful, Effective, and Enjoyable College Teaching.* Sterling, VA: Stylus Publishing.

Fink, D.L. (2003) *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses.* San Francisco: Jossey-Bass.

Keane, M., (2009) *Guide to Writing Module Learning Outcomes.* Learning Innovation Unit, Dublin City University. **www.dcu.ie/afi/docs/FINAL_GUIDE_LOs-1%20May%2019th.pdf**

Krathwohl, D.R., Bloom, B.S., and Masia, B.B. (1964) *Taxonomy of educational objectives: Handbook II: Affective domain.* New York: David McKay Co.

Simpson, E.J. (1972) *The Classification of Educational Objectives in the Psychomotor Domain.* Washington, DC: Gryphon House.

Wilson, L. O. (2006) *Beyond Bloom: A new Version of the Cognitive Taxonomy.* **www4.uwsp.edu/education/lwilson/curric/newtaxonomy.htm**

Please visit **http://sevenwaysoflearning.com/** for more information on the Seven Ways of Learning.