

# active learning primer

**Active Learning:** “anything that involves students doing something and thinking about what they are doing.” Bonwell, C. and J. Eison (1991). *Active Learning: Creating Excitement in the Classroom*, ASHE-ERIC Higher Education Report, No. 1.

**Andragogy:** first defined as “the art and science of helping adults to learn” by Malcolm Knowles (1973), andragogy has been adopted to describe a learner-centered teaching philosophy as an alternative to pedagogy. Knowles, M. (2000). *The Adult Learner*, (5th ed.). Houston: Gulf Publishing.

**Brain-based, or Accelerated, Learning:** an approach to teaching that attempts to unite cognitive and affective aspects of learning, using more of the brain’s emotional and rational capacities.

**Case-Based Teaching:** a discussion-oriented teaching methodology in which a teacher or facilitator leads discussion in response to a written or video-taped story or vignette. The cases are designed to illustrate a problem or issue, and guiding questions are often offered to help lead productive discussion, develop particular thinking skills (such as application, synthesis), or personal qualities (sensitivity, judgment). See Barnes, L.B., C. R. Christensen, and A. J. Hansen (1994). *Teaching and the Case Method*, (3rd ed.). Cambridge: Harvard Business School Press.

**Classroom Assessment:** “Through close observation of students in the process of learning, the collection of frequent feedback on students’ learning, and the design of modest classroom experiments, classroom teachers can learn much about how students learn and, more specifically, how students respond to particular teaching approaches. Classroom Assessment helps individual college teachers obtain useful feedback on what, how much, and how well their students are learning. Faculty can then use this information to refocus their teaching to help students make their learning more efficient and more effective.” Angelo, T., and K. P. Cross (1993), *Classroom Assessment Techniques*, (2nd ed.). San Francisco: Jossey-Bass.

**Collaborative Learning:** involves groups of students working together on problems or tasks conceived by the students. According to Gerlach, “Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves. It is through the talk that learning occurs” (Gerlach, 1994). Thus, in a collaborative learning setting, learners

have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and be actively engaged. National Institute for Science Education (<http://www.wcer.wisc.edu/nise/cl1/CL/default.asp>). See also “cooperative learning.”

**Cooperative Learning:** the instructional use of small groups so that students work together to maximize their own and each other’s learning. Cooperative learning usually implies an activity structured by an instructor to solve a problem, complete a task, or create a product. Five essential components must be present for small-group learning to be truly cooperative: 1) clear positive interdependence among students, 2) face to face interaction, 3) individual accountability, 4) promotion of interpersonal and small group skills, 5) attention to group process to improve effectiveness. Johnson, D.W., R. T. Johnson, and K. Smith (1991). *Active Learning: Cooperation in the College Classroom*, Edina: Interaction Book Company. See also “collaborative learning.”

**Critical Thinking:** Teaching and learning theorists have defined critical thinking in a variety of ways, depending on the context for discussion. All definitions share a few common elements: critical thinking is a process that requires contextualization, involves decision-making and making choices, requires reasoning, and leads to moral and/or intellectual conclusions. One very useful definition comes from Robert Ennis’ *Critical Thinking* (1996): “Critical thinking is a process, the goal of which is to make reasonable decisions about what to believe and what to do.”

**Critical Pedagogy:** refers to the theories of democratic education of Paolo Friere and Henry Giroux. “It focuses on how and in whose interests knowledge is produced and ‘passed on’ and views the ideal aims of education as emancipatory” ([http://www.csd.uwa.edu.au/altmodes/to\\_delivery/critical\\_pedagogy.html](http://www.csd.uwa.edu.au/altmodes/to_delivery/critical_pedagogy.html)). “Pedagogy in the critical sense illuminates the relationship among knowledge, authority, and power.” Giroux, H. (1994). *Disturbing Pleasures: Learning Popular Culture*. New York, Routledge.

**Experiential Learning:** often refers to a number of educational experiences, such as community service, field work, internships, and undergraduate involvement in faculty research. “Experiential learning has both cognitive and motivational goals... Actual experience can link learning, thinking, and doing. Teachers hope that field experiences will not only motivate students to learn current course

materials but also increase their intrinsic interest in further learning” (McKeachie, W.J., *Teaching Tips*, [10th ed.]. New York: Houghton Mifflin, 1999). The term “experiential learning” also applies to an overall philosophy of how people learn. Kurt Lewing developed a cycle of adult learning with four stages: concrete experience followed by reflection on that experience which leads to abstract conceptualizing and then to active experimentation to test the concepts. Following Lewing, David Kolb derived the idea of learning styles from this cycle. (<http://www.dmu.ac.uk/~jamesa/learning/experien.htm>) See Osland, J., D. A. Kolb, and I. M. Rubin (2000), *Organizational Behavior: An Experiential Approach*, (7th ed.). Prentice Hall.

**Inquiry-Based Learning:** “Inquiry is an approach to learning that involves a process of exploring the natural or material world, that leads to asking questions and making discoveries in the search for new understandings. Inquiry, as it relates to science education, should mirror as closely as possible the enterprise of doing real science.” Exploratorium Institute for Inquiry (<http://www.exploratorium.edu/IFI/index.html>). See also “problem-based learning.”

**Learning by Doing:** a program of the MnSCU Center for Teaching and Learning dedicated to promoting active learning and instructional technologies in the college classroom. The term is associated with the educational theories of John Dewey, who emphasized the importance of reflective learning through doing. Dewey, J. (1938). *Experience and Education*, New York: Macmillan).

**Learning Communities:** “In higher education, curricular learning communities are classes that are linked or clustered during an academic term, often around an interdisciplinary theme, and enroll a common cohort of students. A variety of approaches are used to build these learning communities, with all intended to restructure the students’ time, credit, and learning experiences to build community among students, between students and their teachers, and among faculty members and disciplines.” Washington Center for the Improvement of the Quality of Undergraduate Education (<http://learningcommons.evergreen.edu>)

**Learning Styles:** refers to students’ characteristic or preferred ways of gathering, interpreting, organizing, and thinking about information. Learning styles are often classified in personality models, information-processing models, social-interaction models, and instructional preference models, and would include gender and age differences. See also “experiential learning.”

**Pedagogy:** the art, science, or profession of teaching. From Greek roots, the term refers to the act of teaching children and is sometimes seen as teacher-centered rather than learner-cen-

tered. See andragogy for an alternative.

**Problem-Based Learning:** “As defined by Dr. Howard Barrows and Ann Kelson of Southern Illinois University School of Medicine, PBL is both a curriculum and a process. The curriculum consists of carefully selected and designed problems that demand from the learner acquisition of critical knowledge, problem solving proficiency, self-directed learning strategies, and team participation skills. The process replicates the commonly used systemic approach to resolving problems or meeting challenges that are encountered in life and career.” Maricopa Community College Center for Learning and Instruction (<http://www.mcli.dist.maricopa.edu/pbl/problem.html>). See also “inquiry-based learning.”

**Scholarship of Teaching:** “is problem posing about an issue of teaching or learning, study of the problem through methods appropriate to disciplinary epistemologies, application of results to practice, communication of results, self-reflection, and peer review.” Carnegie Foundation for the Advancement of Teaching (<http://www.carnegiefoundation.org>).

**Service Learning:** also known as community service learning, this method of teaching meets both academic and community goals. As defined by one practitioner, service learning is “a credit-bearing educational experience in which students participate in an organized community service activity that meets identified community needs” and students also reflect “on the service activity in such a way as to gain further understanding of course content and an enhanced sense of civic responsibility.” Zlotkowski, E. (ed.) (1998). *Successful Service Learning Programs*, Bolton, MA: Anker.

**Student-Centered, or Learner-Centered Instruction:** an approach to teaching that puts student learning first by aiding “student discovery and construction of knowledge.” Learner-centered instruction sees the student as the active participant and places less emphasis on “delivering content” to the student and more on “creating knowledge” in the student. Barr, R. B. and J. Tagg, “From Teaching to Learning: A New Paradigm for Undergraduate Education,” *Change* 27 (6), 13-25.

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