

## Active Learning Techniques

**Leading question** A question so framed as to guide the student questioned to respond with a particular obvious answer. This answer is then explored in further depth which may ultimately conclude with an answer that was not so explicit, or one that fosters cognitive dissonance, moral challenging, or self-questioning on the part of the student.

**Puzzle, enigma, contradiction** Information presented to student that is accurate, but is either incomplete, ambiguous, or paradoxical in nature.

**Insight, epiphany** The capacity to discern the inward or hidden nature of things or of perceiving in an intuitive manner. A comprehension or perception of a topic by means of a sudden intuitive realization.

**Empathy** Identification with and understanding of another's situation, feelings, and motives. The attribution of one's own feelings to a situation or person in a story.

**Connecting a topic** Pointing out similarities between the topic to be studied and one that is more contemporary, more familiar, or more interesting to your students.

**Stereotype, conventional wisdom** A conventional, formulaic, and oversimplified conception, opinion, or image that often stands in for reality. These can be explored further by examining them in more complexity, in different contexts, or analyzing the rationales/origins for the stereotypes in the first place.

**Challenges to knowledge, beliefs, and attitudes** Devil's advocate: to argue against a cause or position not as a committed opponent but purely in order to provoke a discussion or argument, or to determine the validity of the cause or position. Focused questioning: Questioning designed to extract the underlying assumptions, situatedness, or logical construction of a cause, position, or opinion.

**Poll, pretest** A poll is a survey conducted about a topic by asking questions that can be answered by yes/no or agree/disagree. These generally give quick collective feedback which can influence the ensuing instruction, although it is usually not detailed in nature and does not assess individual student perceptions. A pretest is an examination given before the instruction that tests what students will be expected to know after the instruction. It enables instructors to know what kinds of initial knowledge and misconceptions students have when they begin the module of instruction.

**Brainstorming** A method of collaborative problem solving in which all members of a group spontaneously contribute ideas, or a similar process undertaken by an individual to solve a problem by rapidly generating and recording a variety of possible solutions.



**Collaborative listing and ranking** A group process by which members determine the individual aspects or elements of a task or concept, and then prioritize them or place them in a hierarchical order.

**Mind mapping** involves writing down a central idea and thinking up new and related ideas which radiate out from the centre. By focusing on key ideas written down in your own words, and then looking for branches out and connections between the ideas, you are mapping knowledge in a manner which will help you understand and remember new information.

**Concept mapping** is a technique for representing knowledge in graphs. Knowledge graphs are networks of concepts. Networks consist of nodes and links. Nodes represent concepts and links represent the relations between concepts. Concepts and sometimes links are labeled. Links can be non-, uni- or bi-directional. Concepts and links may be categorized, they can be simply associative, specified or divided in categories such as causal or temporal relations. Concept mapping can be done to generate ideas, to design a complex structure (long texts, hypermedia, large web sites, etc., to communicate complex ideas, to aid learning by explicitly integrating new and old knowledge, or to assess understanding or diagnose misunderstanding.

**Visual webs** are concept maps that may also contain images, different ways of visually constructing relationships (such as Venn diagrams instead of points and lines), and explanatory textual material.

**Cognitive analogies** Students are encouraged to imagine multiple ways in which an idea, fact, explanation, procedure, etc. could be understood. How, for example, might a painter represent Darwin's ideas about kin selection? Or, how might the musicological structure of a Beethoven violin sonata be realized with tinker toys? Or, how might Oedipal conflicts serve to represent the confinement of negative electrical charge to specific nuclear orbitals?

**Instructor-created charts, matrices, flowcharts, models** Visually-inspired representations of concepts which enable students to approach the material in more concrete ways. These generally not only include the concepts themselves, but also ways in which they can be ranked, prioritized, compared, contrasted, and understood in context.

**Student-created charts, matrices, flowcharts, models** Students are encouraged to build charts, matrices, flowcharts, and models as contexts for extending their understanding of key course-specific concepts. This sort of exercise encourages students to ask: What would a good model look like? How should the model actually be constructed? What are the strengths and weaknesses of the model? Computers provide an excellent resource for this sort of work (SimCity is a nice example of a commercial product that enables multi-level modeling of techno-socio-political problems, ideas, issues, etc.).



**Case study, mini-case study** An analysis of a particular case or situation, either real or constructed, that is used as a basis for the application of knowledge and/or drawing conclusions in similar situations. The analysis can be of a person or group, or even an intensive study of a unit, such as a corporation or a corporate division. A case study can be exemplary, cautionary, or instructive. Exemplary and cautionary case studies are presented in total to serve as a model for success or failure, for example. Instructive case studies can present problems that require identification through clues, symptoms, or outcomes and consist of background information that can be ambiguous, incomplete, or hidden.

**Simulations, scenarios** The reproduction of the essential features of an organization or system as an aid to study or training. While the simulation represents the real process or entity, it can never equal it in complexity or completeness. A scenario is a narrative which recites the important elements of a situation or process within an organization or system.

**Role-playing** The instructor provides either real or imaginary contexts along with a range of relevant characters/roles; students are encouraged to research these contexts, characters, and/or roles, and then to improvise dramatic interactions among their characters during class periods.

**Student debate** A formal discussion in which an issue or topic is approached from two, completely opposite points of view. These are generally held with strict protocols that determine the procedure for presenting each argument, critique, and rebuttal, and that designate stages for speaking and listening

**Round table discussion** A discussion which may follow any number of specific protocols, but that is based on the agreement that each person has equal opportunity to contribute and equal status in the discussion.

**Problem-based learning** A pedagogical strategy based on constructivist learning theory that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem solvers. Students are confronted with problems that are "ill-structured," that is, they do not have clear-cut, absolute answers. These problems reflect the complexity of real-world situations. The tasks are designed to be as authentic, in terms of emulating real-world tasks and environments, and are designed to foster transfer of learning to real-world situations that the learner may encounter in the future. In addition, they require learners to actively explore information resources other than the teacher, including primary documents, reference materials and community members, and to draw on knowledge from diverse subject areas.



**Student field work with reflection** Any number of organized or individual instructional experiences that are held outside the classroom. Their design is meant to be as authentic as possible or as the instructional topic permits. Students are usually asked to journal, report, or otherwise produce documentation and/or their impression of the experience.

**Collective problem solving** Both conceptual and practical problems will sometimes resist solution because problem-solvers are unable to frame their questions in original ways; collective problem solving exercises encourage small groups of students to take a problem (e.g., how to interpret a literary text or historical event) and reformulate it (i.e., conceive it differently, even oddly) in at least ten new ways (for example, one could begin to reformulate the classic problem of explaining Hamlet's inaction-- his psychological disposition--as a moral problem: why is Hamlet caught among competing moral values?). The focus of this sort of exercise is not on providing solutions but on rethinking the nature of the problem itself.

**Service learning** Instructional projects that link community service and academic study so that each strengthens the other. The basic theory of service-learning is that the interaction of knowledge and skills with experience strengthens learning, and contributes to the community in meaningful ways.

**Thematic analysis** Literary, scientific, political, philosophical (etc.) achievements can be understood as "events" that emerge from the intersection of thematic trajectories. (One might, for example, see *The Wizard of Oz* as a literary event shaped by thematic tensions like: (a) gold vs. silver currency standards, (b) aristocratic vs. populist models of government, (c) industrial vs. agrarian economies, (d) absolute vs. relative conceptions of moral goodness, (e) developmental vs. fixed accounts of character, and so on.) Students are encouraged first to identify and then apply thematic trajectories from their "other" courses (whatever else they happen to be studying) and experiences with/to an "event" under analysis in the "home" course.

**Student-created web pages/sites for the purpose of information dissemination/instruction** Students initially undergo an individual or group research project, and then are asked to manipulate the information and findings into a web-based form that is instructive to others. In selecting, digesting, and organizing the material for others, students approach the material more deeply and meaningfully.

**Student creative construction (visual, performance, or literary)** Based on a set of criteria which are determined in the course and informed by course materials, students determine a topic in which they will develop a creative project in order to convey any number of themes. Either individually or collaboratively, students then produce an artistic product. In the process of creative expression, students approach the material more affectively and reflectively.

