

## ***Discussion Techniques for Active Learning: Dictionary of Methods and Strategies***

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**Affinity Map:** Ask an open-ended question that has many possible answers. Have the students write one idea per post-it note about the question. Instruct students to work silently on their own. Reminding students to remain silent, have them organize ideas by “natural” categories. Once they have done this ask them to converse about the sorting and come up with a name for each category. Review and discuss the group categories and use them as a springboard to further deeper understanding of the topic.

**Think-Pair-Share:** After posing a complex question, ask students to respond in writing for 1–2 minutes, depending upon the complexity of the question. Then ask students to pair up and talk with their neighbor about their response for 1–2 minutes. Finally, ask selected pairs to share their responses with the whole class. This technique improves the quality of students’ responses to questions by allowing for processing time. The technique also improves the participation of generally quiet, shy, and unsure students.

Resources: Millis & Cottell, *Cooperative Learning for Higher Education Faculty* (1998).

**Partial Problem:** This activity helps students practice parts of problems that typically cause them difficulty. Instructors can see how well students grasp this part of the problem or whether students need additional instruction. In a problem requiring several steps, work the problem for the students or with them until a critical point. At that point, stop and ask what the next step is. Students should be able to identify what must be done and complete the problem. Students only work the part of the problem that they most need to focus on. The “easy part” is either worked for them or omitted all together.

Resources: Adapted from Walvoord and Anderson, *Effective Grading* (1998).

**Save the Last Word for Me:** In groups of three or four, each participant silently chooses an idea or passage from a reading which s/he found to be significant. When the group is ready, a volunteer begins by reading his/her passage but says nothing about why s/he chose that point. The other two or three participants each have one minute to respond to that idea. The reader then has three minutes to state why s/he chose that passage and to respond to his/her colleagues’ comments. The same pattern is followed until all members of the group have “had the last word.” The instructor keeps track of time; talk has to stop when time is called, and if the speaker finished before time is called, the group sits in silence reflecting. When the process is complete, the instructor debriefs the process, asking, for example, “How did this work for you?” and “What didn’t work for you?” Debriefing is essential and must not be skipped.

Resources: [www.Nsrfharmony.org](http://www.Nsrfharmony.org)

**Minute Paper:** Use this method at the start of the class to appraise students’ preparation for the class, or at the end of class to see how well they understood the day’s topic. Pass out a blank 3x5” or 4x6” index card. Tell students they have one minute to write a thoughtful but brief response to a question you write on the board or project with the overhead. For example, “What was the most important thing you learned?” or “What remains unclear to you about today’s lecture?” Unless you schedule the minute papers in your syllabus, don’t have the students put their names on the cards. The feedback will be more honest, and the students will not feel intimidated by the unscheduled assessment.

Resources: Angelo & Cross, *Classroom Assessment Techniques* (1993), p. 148.

**ConceptTest:** This technique gives faculty members quick feedback in class on students’ understanding of course concepts. Students answer a multiple choice question posed by the instructor in class. This question focuses on a single concept, can’t be solved by an equation, and is intermediate in difficulty. Students then raise their hand for their answer choice. If all students are in agreement, then the instructor knows to move on with the material. If there is disagreement about the correct responses, the instructor knows to spend more time with the concept. The technique can be followed up with a think-pair-share in which students talk to their neighbor about why they think the answer they gave is correct. The instructor can then ask for another show of hands to see how peer instruction changed students’ responses.

Resources: [mazor-www.harvard.edu/research/detailspage.php?ed=1&rowid=8](http://mazor-www.harvard.edu/research/detailspage.php?ed=1&rowid=8)

**Fishbowl:** This discussion technique is useful for having the students summarize a discussion and works well in large classes. Before the next class discussion, ask a subset of the class (about a third) to be prepared to be in the fishbowl at the next class where they will actively participate in a discussion. During the discussion, these “fishbowl” students sit in a circle in the middle of the room. The rest of the students sit in a concentric circle outside the fishbowl looking in at the discussants; they are observers and note-takers about the discussion. At the end of the discussion, the observers share their observations and ask questions. Their notes might be provided online to the rest of the class.

Resources: McKeachie, *Teaching Tips* (1999), p. 211



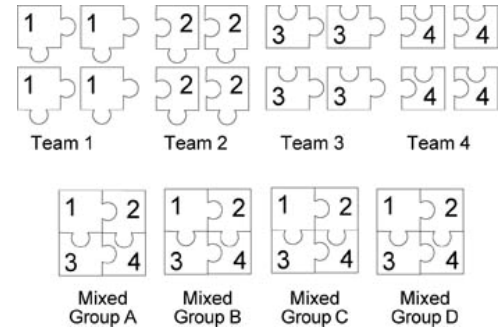
**Human Graph:** The instructor puts up posters on four walls, and opposing walls have opposing viewpoints on them. Students then use the walls to position themselves in the room according to their position on those axes. For example, students might arrange themselves on an axis reflecting their level of concern for nature in itself, and a second reflecting their belief in economic libertarianism. Once they are in the initial four main areas defined by the graph, they talk to the people around them about the topic under discussion, and clarify their positions relative to the others around them. The four quadrants can then be used to form new heterogeneous groups for follow-up discussions.

**Jigsaw:** Choose material that can be broken into segments like a research article. Divide the class into groups equal to the number of segments. Group 1, in a collaborative study group, learns the material in the first segment, group 2 studies the second segment, etc. After the study period, new groups are formed so that each new group contains a member of each former study group. Each group member now teaches the material they studied to the other members of the group.

Resources: Silberman, M. (1996) *Active Learning: 101 Strategies to Teach Any Subject*. Boston: Allyn and Bacon. p. 111

Image:

<http://serc.carleton.edu/NAGTWorkshops/coursedesign/tutorial/jigsaw.html>



**Microlab:** Based on a reading or concept, the instructor prepares at most three questions of increasing complexity or depth. Students are put into groups of three and are given one to two minutes to think and write about the first question. Then each person is given a minute (or two minutes if time allows) to talk about his/her response to the question. While one person is talking, the others are listening. After the time is up, the next person speaks, and so on until all three members of the group have spoken about the first question. The process is repeated for the follow-up questions. On the first question, begin with person #1, then #2, then #3. On the second question start with person #2, then #3, then #1. On the third question, start with person #3, then #1, then #2. The instructor keeps track of time; talk has to stop when time is called, and if the speaker finished before time is called, the group sits in silence reflecting. When the process is complete, the instructor debriefs the process, asking, for example, "How did this work for you?" and "What didn't work for you?" Debriefing is essential and must not be skipped.

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**Pro/Con Grid or Categorizing Grid:** Have the students create a list of the pros and cons of a particular action or argument. Alternatively, they could list costs and benefits of a decision, or alternate solutions to a problem. Be sure to tell them how many pros & cons you want them to devise. Also tell them whether you want a list of words and phrases or if you want responses in full sentences. This method is useful to judging the depth and breadth of student understanding, and also their objectivity about the issue at hand.

Resources: Angelo & Cross, *Classroom Assessment Techniques* (1993), p. 168.

**Send-a-Problem:** Each group member writes a review question on a card. They then take turns asking the group to solve the question. If there is a consensus on the answer, it is written on the back of the card. After all questions are answered, the card stack is sent to the next group, who repeats the process without looking at the first group's answer until they have reached a consensus. Time required: 2-3 minutes per person for each group that works through the card stack.

**Wagon Wheel:** The chairs in the classroom are set up so that there are multiple concentric pairs of circles, each containing an inner circle and an outer circle. Four chairs on the inside and four on the outside for each concentric pair works well. In the inner circle, the chairs face the outside of the circle. The outer circle of chairs faces the inner circle so that inner and outer chairs are paired. Participants bring paper and a pen and fill in the seats of the wheel. Participants discuss one question or topic with their partner for three to five minutes, depending on the topic to reach a common understanding of the topic and to brainstorm what it would look like in action. At the end of the allotted time, participants on the outside circle rotate one seat to the right. They are then given the next question or topic to discuss. When the process is complete, the instructor debriefs the process, asking, for example, "How did this work for you?" and "What didn't work for you?" Debriefing is essential and must not be skipped.

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