# STRATEGIES FOR ACTIVE LEARNING

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NSF Grant #1037808: Engineering Education Research to Practice

<table>
<thead>
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<th>ACTIVITY</th>
<th>DESCRIPTION</th>
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| **3 – 2 – 1 Format**        | Instructor asks students to jot down and share with a partner or small group:  
  - 3 ideas/issues etc. presented,  
  - 2 examples or uses of the idea/information covered, and  
  - 1 unresolved/remaining question/area of possible confusion |
| **Active Review Sessions**  | Instructor provides problems and the students work on them in groups. Students are then asked to:  
  - Show their solutions to the whole group and  
  - Discuss any differences among solutions proposed |
| **Background Knowledge Probe (BKP)** | BKP questionnaires ask for basic, simple responses from students who are about to begin a course, a unit, or study of a new concept in the form of:  
  - Short answers  
  - Circling/showing of hands in response to multiple choice questions  
  
  Such probes are meant to help teachers determine effective starting points/appropriate levels of instruction for a given subject and/or class; helps students focus attention on what will be important material. |
| **Collaborative Learning Groups (CLGs)** | Instructor assigns students to heterogeneous groups of 3-6. Student groups then:  
  - Choose a leader and a scribe (note-taker).  
  - Are given a task to work on together  
  - Produce a group answer or paper or project  
  - Share their answers with the rest of the class |
### Concept Mapping

A concept map is a way for students to:

- Create visual representations of models, ideas, and the relationships between concepts
- Illustrate the connections that exist between terms or concepts covered in course material by lines which indicate the relationship between each set of connected terms
- Identify and organize information and to establish meaningful relationships between the pieces of information

These can be done individually or in groups, and can be shared, discussed, and critiqued.

### Corners

Instructor places a flipchart with a question written on it in each corner of the room, and then:

- Assigns students to groups of 3-6 (or allows self-assignment)
- Asks groups to move from corner to corner and to discuss answers to each posed question; group response is posted on the flipchart
- Next group revises/expands/illustrates the previous group’s response with additional information (useful to use different colored markers for each group)

### Debates

Instructor assigns students to debate teams and

- Provides a position for the group to defend (pro or con)
- Asks first group to support their position
- Asks second group to present a rebuttal
- Asks first group to respond to the rebuttal

### Free Write

Instructor asks participants to write for 2-3 minutes on a topic or in response to a question that has been developed for the session. This is particularly useful:

- When facilitators/teachers are asking participants to move from one level of understanding to another
- From presentation of new ideas to application of ideas
- From considerations about self to situations involving others
- To provide a transition for participants by bringing together prior learning, relevant experience, and new insights as a means of moving to a new aspect of the topic.
| Guided Reciprocal Peer Questioning | The goal of this activity is to generate discussion among student groups about a specific topic or content area.  
➢ Instructor conducts a brief (10-15 minutes) lecture on a topic or content area; a reading or written task may be assigned as well.  
➢ Instructor then gives the students a set of generic question stems.  
➢ Students work individually to write their own questions based on the material being covered.  
➢ Students do not have to be able to answer the questions they pose. This activity is designed to force students to think about ideas relevant to the content area.  
➢ Students should use as many question stems as possible.  
➢ Grouped into learning teams, each student offers a question for discussion, using the different stems.  

Sample question stems:  
➢ What is the main idea of...?  
➢ What if...?  
➢ How does...affect...?  
➢ What is a new example of...?  
➢ Explain why...?  
➢ Explain how...?  
➢ How does this relate to what I've learned before?  
➢ What conclusions can I draw about...?  
➢ What is the difference between... and...?  
➢ How are...and...similar?  
➢ How would I use...to...?  
➢ What are the strengths and weaknesses of...?  
➢ What is the best...and why? |
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<tr>
<th><strong>Jigsaw Technique</strong></th>
<th>The Jigsaw Technique is a cooperative learning method that can be used in the place of a lecture. The instructor’s role is to:</th>
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<tbody>
<tr>
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<td>➢ Prepare several different, related assignments for the class. In the pictorial example below, the instructor devised four assignments, one for each of four teams. Each team then prepares one of the assignments.</td>
</tr>
<tr>
<td><img src="image.png" alt="Diagram" /></td>
<td>Team 1</td>
</tr>
<tr>
<td></td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>Mixed Group A</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4</td>
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<td></td>
<td>➢ Once each team is prepared, the class in the pictorial example above is divided into four new groups. Each group will have one team member from each of the teams. Each member of the group is responsible for teaching the rest of the group what he/she has learned from his/her team assignment.</td>
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<td>➢ The group then puts all of the pieces together and completes a group task (a synthesis activity) that can only be answered once all of the team pieces are together (hence the name &quot;jigsaw&quot;). This latter part is crucial to the technique. This might be a case study, a follow-up question, etc.</td>
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<td>Source:</td>
<td><a href="http://serc.carleton.edu/NAGTWorkshops/coursedesign/tutorial/jigsaw.html">http://serc.carleton.edu/NAGTWorkshops/coursedesign/tutorial/jigsaw.html</a></td>
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<td><strong>Muddiest (or Clearest) Point</strong></td>
<td>At the end of a class period, or at a natural break in the presentation, the instructor asks the students “What was the &quot;muddiest point&quot; in today's lecture?” Alternatively, students can be asked “What was the clearest point in today’s lecture?”</td>
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| **Note Check** | Instructor asks students to pair with a partner/small group to briefly (2-5 minutes) share notes. The pair can then  
- Clarify key points covered, generate and/or resolve questions  
- Generate a problem to solve  
- Solve a problem posed by the instructor  
- Write a paragraph synthesizing key ideas as set out in partner's notes. |
| **One Minute Papers** | Instructor asks students to comment on the following questions. Give them one minute and time them. This activity focuses them on the content and can also provide feedback to you as a teacher.  
- What was the most important or useful thing you learned today?  
- What two important questions do you still have; what remains unclear?  
- What would you like to know more about?  
The instructor can use these one minute papers to begin the next day’s discussion, to facilitate discussion within a group, or to provide feedback on where the student is in his or her understanding of the material. |
| **Question and Answer Pairs** | The objective in Q & A Pairs is to engage individuals with readings and then to pair them to answer particular questions. This helps to deepen the level of analysis of presentations/readings, and helps engage participants in explaining new concepts, as well as considering how/where to apply the concepts to their own thinking/working setting. The procedure is as follows:  
- Participants respond to a presentation (video, panel, readings) and compose one or two questions about it; they may do this in class or you may ask students to bring questions with them  
- The participants pair up; A asks a prepared question and B responds; then B asks a prepared question and A responds  
- The leader may ask for a sampling of questions and answers in order to bridge to a full group discussion. |
| Reciprocal Questioning | The facilitator provides Comprehensive Question stems, such as the following:  
- Describe...in your own words.  
- What does...mean?  
- Why is...important?  
- How could...be used to...?  

Or Connector Question Stems, such as  
- Explain why...and how...  
- How are...and...similar?  
- How are...and...different?  
- How does...tie in with...that we learned before?  

Participants then develop specific questions from the given stems and provide answers. Students can work individually, with a partner, or in a small group. |
|---|---|
| Roundtable | Roundtable structures can be used to brainstorm ideas and to generate a large number of responses to a single question or a group of questions. The process is as follows:  
- Instructor poses a question  
- Each group is provided with one piece of paper and a pen  
- First student writes one response, and says it out loud  
- First student passes paper to the left, second student writes response, etc.  
- Continues around group until time elapses  
- Students may say "pass" at any time  
- Group stops when time is called  

The key here is the question or the problem you've asked the students to consider. It has to be one that has the potential for a number of different "right" answers. Relate the question to the course unit, but keep it simple so every student can have some input. Once time is called, determine what you want to have the students do with the lists...they may want to discuss the multitude of answers or solutions or they may want to share the lists with the entire class. |
| Send-A-Problem | Send-A-Problem can be used as a way to get groups to discuss and review material, or potential solutions to problems related to content information.  
- Each member of a group generates a problem and writes it down on a card. Each member of the group then asks the question to other members  
- If the question can be answered and all members of the group agree on the answer, then that answer is written on the back of the card. If there is no consensus on the answer, the question is revised so that an answer can be agreed upon  
- The group puts a Q on the side of the card with the question on it, and an A on the side of the card with an answer on it  
- Each group sends its question cards to another group  
- Each group member takes one question from the stack of questions and reads one question at a time to the group. After reading the first question, the group discusses it  
- If the group agrees on the answer, they turn the card over to see if they agree with the first group's answer  
- If there again is consensus, they proceed to the next question  
- If they do not agree with the first group's answer, the second group writes their answer on the back of the card as an alternative answer  
- The second group reviews and answers each question in the stack of cards, repeating the procedure outlined above.  
- The question cards can be sent to a third, fourth, or fifth group, if desired.  
- Stacks of cards are then sent back to the originating group. The sending group can then discuss and clarify any question |
| Shared Brainstorming | Instructor disseminates sheets of paper to each small group of 3-5 people, each with a different question. Team members generate and jot down answers to the given question  
- Each group is asked to rotate to another sheet containing a different given question to answer  
- This procedure is repeated, giving each group the opportunity to respond to as many questions as possible  
- At the end of this activity, each group returns to their original question sheet, reviews the given responses, generates a summarization of ideas, and shares their conclusions etc. with the entire group |
| **Structured Problem-solving** | Structured problem-solving can be used in conjunction with several other cooperative learning structures.  
- Have the participants brainstorm or select a problem for them to consider.  
- Assign numbers to members of each group (or use playing cards). Have each member of the group be a different number or suit.  
- Discuss task as group.  
- Each participant should be prepared to respond. Each member of the group needs to understand the response well enough to give the response with no help from the other members of the group.  
- Ask an individual from each group to respond. Call on the individual by number (or suit). |
| **Student Response Systems (Clickers/Index Cards)** | Instructor asks a question; students respond by holding up colored index cards to indicate their response (for example, green= yes, yellow=maybe, red=no); alternatively, an electronic clicker system can be provided by Academic Technologies to serve the same purpose. |
| **Student-led review sessions** | This is used in place of the traditional instructor-led review session. For the first part of the session, the instructor asks students to:  
- Divide into small groups  
- Ask at least one question related to the material that he or she doesn’t understand  
- Try to answer a question posed by another student  
For the second part of the session, the entire class works together.  
- Student volunteers ask questions  
- Other students volunteer to answer them  
- Instructor intervenes only if there is a problem |
| Team Expectations | Students often avoid group work because they’re afraid that not everyone will contribute equally to the group, which could mean a lower grade. To address this, the instructor might:  
- Using a group activity to allow the group to outline acceptable group behavior  
- Create a form that asks groups to list behaviors (expectations) they expect from each individual, each pair and as a group as a whole.  
- Groups use this form to monitor individual contributions to the group and as a way to evaluate group participation |
| --- | --- |
| The "One Minute Paper" | Instructors can use this method to monitor student progress, both in reacting to course material and understanding it. There are two variations:  
- Students are asked to take out a blank sheet of paper; instructor poses a question about the content (either specific or open-ended), and allows students one or two minutes to respond. Instructor reviews the papers and makes course corrections as necessary.  
- Students are asked to write out their responses to questions such as  
  - What is the most important thing you have learned in class today?  
  - What is the question that is uppermost in your mind? |
| The Fish Bowl | Students are given index cards, and asked to write down one question concerning the course material. At the end of the class period, students deposit their questions in a fish bowl. The instructor then draws several questions out of the bowl (either then or at the beginning of the next class period) and answers them for the class or asks the class to answer them. |
| Think-Pair-Share | Instructor gives students a task such as a question or problem to solve or an original example to develop. Students then are asked to  
- Think: Work on the question/problem alone for a few minutes  
- Pair: Discuss their ideas for 3-5 minutes with the student sitting next to them  
- Share: Student pairs share their ideas with the whole class. |
