



STRATEGIES/TECHNIQUES FOR ACTIVATING LEARNING, GAUGING PROGRESS, AND PROVIDING FEEDBACK DURING TEACHING/LEARNING ACTIVITIES

Strategy/Technique	Participants	Time to Implement	Preparation	Results
<p>Audience Rapid Response: Uses rapid response technology or low tech means such as show of hands, holding up a sign or signal to answer questions presented orally, written on paper, or projected. Can be used at beginning of class to see if students did assigned reading, as the class proceeds to see if the concept just covered was assimilated, or to check opinion, preferences, etc. (Flaguide; Angelo & Cross, 1993)</p>	Small to large groups (doing this with groups less than six may lead to embarrassment)	Minutes	<p><u>Instructor:</u> Prepare questions ahead of time; or questions can be generated spontaneously but may not be as effective as those carefully planned and thought out</p> <p><u>Students:</u> Brief instructions</p>	General impression or quantitative results that are immediately available to the instructor and to the students.
<p>Background Knowledge Probe: A written, often multiple choice test that is given to students at the beginning of a learning activity to uncover their background knowledge, find out if they are prepared for the next learning step, reveal misconceptions or weaknesses that will need to be corrected. (Flaguide and Angelo & Cross, 1993)</p>	Small to large groups	5-30 minutes	<p><u>Instructor:</u> Identify most important concepts and carefully write or find questions that will address them in sufficient depth to be useful</p> <p><u>Students:</u> Brief written or oral instructions</p>	Quantitative results and feedback on the direction needed to optimize learning. (Students may complain that such tests are tricky or too hard and may have trouble believing that they are not going to be used as part of their “grade.”)
<p>Checklists: Having an observer use a previously prepared checklist to record actions performed by another student on an assigned task. Useful when tasks can be sequenced and broken down into specific tasks or behaviors. Particularly useful for providing detailed feedback to novices. (ACGME Toolbox; Munger, 1995; Winkel, Reznick, Cohen & Taylor, 1994)</p>	Individual	5-50 minutes	<p><u>Instructors:</u> Identify or develop checklist. Know how to use it and/or train observer to</p> <p><u>Students:</u> Specific instructions about the task to be performed</p>	Number of correct out of the total number of items, allowing students to compare their individual performance (anonymously) with that of their peers. (High inter-rater reliability, moderate inter-case reliability, low validity at higher levels of expertise)

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<p>Concept Mapping: Non-linear, node-link diagram of an idea, topic, process in which the central idea is linked to related concepts/information using labeled lines in a manner that illustrates the nature of the relationship and hierarchy. Usually being with general and radiate to the specific. (Flaguide; Angelo & Cross, 1993)</p>	Individual or group	Variable depending on number and complexity	<p><u>Instructor:</u> Minimal if students construct the maps; extensive if designing maps for students to complete <u>Students:</u> Introduction to concept mapping and initial practice is necessary.</p>	Usually not formally graded. Allows students to see connections, contraindications, and gaps in their knowledge, providing a foundation for asking questions. Mapping structure promotes making conceptual connections and fitting ideas together. Non-linear, relational process of mapping permits and encourages students to see complex relationships among ideas, such as feedback loops.
<p>Minute Paper or Muddiest Point: Brief student response to a question posed by the instructor at the end of a session that is collected as students leave. “What was the muddiest point in today’s learning activity?” often yields the most helpful information. (Flaguide; Angelo & Cross, 1993; Mosteller, 1989)</p>	Individual or group	2-4 minutes	<p><u>Instructor:</u> Minimal; can be done spontaneously <u>Student:</u> Brief oral instructions</p>	Information to the instructor about what/how students are thinking. Helpful in identifying whether group has missed a key point or has pre-existing misconceptions. Allows instructor to detect trends and adjust teaching accordingly. May serve as self-identified learning issues for students.
<p>Plus/Delta (+/Δ): Format for students to identify and record what is working (+) and what needs to be changed for improvement (Δ)—students draw a vertical line down the center of a piece of paper, write a + at the top of the first column and a Δ at the top of the second column, and then write in comments that correspond to each heading. Most useful at the end of an activity. (Angelo & Cross, 1993; McClanahan & Wicks, 1993)</p>	Individual or group	Minutes	<p><u>Instructor:</u> Minimal <u>Students:</u> Brief oral instructions</p>	Reinforces learning, identifies opportunities for development, increases likelihood that student will act on them. If collected by instructor, provide information to guide future development.

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<p>Recall, Summarize, Question, Comment & Connect (RSQC2): Usually presented at end of learning activity. Learners are asked to write comments in following areas: Recall what is the most important to remember from this session, summarize main points, identify questions they still have, comment on the learning process, connect to other things they have learned and/or how they apply it to their daily practice. (Angelo & Cross, 1993)</p>	Individual or group	5-10 minutes	<p><u>Instructor:</u> None <u>Students:</u> Brief oral instructions</p>	Helps students evaluate their learning, identify further learning needs to guide future study, and make connections. Helps teacher evaluate the learning experience, address unanswered questions, and plan what comes next.
<p>Think/Pair Share or Consult Your Colleague (CYC): In response to a question, students pair up, share their responses, and create a joint response. All or example responses are shared with group at large. If a correct or expert response is appropriate, the teacher provides it. (Flaguide; Angelo & Cross, 1993; King, 1993)</p>	Pairs or triads	5-15 minutes	<p><u>Instructor:</u> Minimal <u>Students:</u> Brief oral instructions</p>	Encourage active, collaborative learning and warms a large group up for active participation. Reduces the risk of sharing answers in a group.

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