Active Learning Activities and Assessments

Organized by the amount of effort needed to prepare before class, conduct in class, and analyze afterward.

Center for Educational Innovation
University of Minnesota

Name	Description	What to do with the data	Effort Needed
Minute paper	Commonly administered at the end of class, the minute paper typically asks "What was the most important concept you learned in class today?" or, "What do you see at 1 or 2 main points of today's activities/lecture/discussion?" to gain a sense of student comprehension related to the day's specific focus. Prompts can also pose reflection-oriented questions.	Review responses and note any useful comments. During the next class period emphasize the issues illuminated by your students' comments. For a helpful inventory of comprehension and reflection questions, see the OnCourse Minute Paper resource. This writing often provides the foundation for the "Think * Pair * Share" strategy: students write, then talk in pairs or trios about ideas, with some sharing with the entire class.	Prep: Low In class: Low Analysis: Low
Chain notes	Students pass around an envelope on which the teacher has written one question related to the class session. When the envelope reaches a student they write a brief response to the question, returns the response sheet to the envelope, and passes it to a next student.	Go through the student responses and determine the best criteria for categorizing the data with the goal of detecting response patterns. Discuss the patterns of responses with your students.	Prep: Low In class: Low Analysis: Low
Focused listing	In a given time period, students write down as many ideas that are closely related to a single important term, name, or concept. Useful in large & small courses in which a large amount of new information is regularly introduced.	The simplest way is to sort the responses into "related" or "unrelated." Then you can classify the responses according to the type or degree of relation to the focus topic (e.g., examples, definitions, illustrations; primary, secondary, tertiary relations).	Prep: Low In class: Low Analysis: Low

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Application cards	After teaching about an important theory, principle, or procedure, ask students to write down at least one context-specified application for what they have just learned.	Quickly read once through the application and categorize them according to their quality. Pick out a broad range of examples and present them to the class.	Prep: Low In class: Low Analysis: Medium
Approximate analogies	To find out whether students understand the relationship between two concepts, the complete the second half of an analogy – A is to B as X is to Y – for which their instructor has supplied the first half (A is to B).	Quickly sort the responses into three piles, "good," "poor/wrong," and "in doubt." Go over the "in doubt" pile several times to exhaust it. Select examples from each group to bring to the class and discuss what makes the analogy a good/poor choice.	Prep: Low In class: Low Analysis: Medium
Muddy point	Ask students to write an informal response to one question: "What was the muddiest point in _____?" The focus could be a lecture, a discussion, homework, a play, or a film.	Quickly read through at least half of the responses, looking for common types of muddy points. Sort them by affinity. Use a principle (number, concepts, skills) to decide which to deal with in class.	Prep: Low In class: Low Analysis: Low
Clear skies	As with the Muddy Point prompt, ask students to write a response to a single question: "What was the clearest point for you in ___? The focus here could be a reading, presentation, in class discussion/activity, or class prep task.	Quickly read through at least half of the responses, looking for a pattern in what students identify as points of understanding/connection related to course materials/concepts. Sort them by affinity to begin determining what to address and/or how to build on these in class.	Prep: Low In class: Low Analysis: Low
Directed paraphrasing	Students write a "translation" of something they have just learned for a specified individual, audience, or purpose audience to demonstrate comprehension and engage retrieval.	Categorize student responses according to characteristics you feel are most important. Analyze those responses both within and across categories, noting ways you could address student needs.	Prep: Low In class: Med Analysis: Med

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3 – 2 – 1 response	As preparation for class: Students read/annotate assigned readings, review in order to respond to the following: ● 3 things learned – ideas, issues, insights. ● 2 examples of how to apply the ideas, issues, insights to case challenge. ● 1 unresolved "something," which you can express as a question, name as an area of confusion, or point to as a difficulty.	In small discussion groups, individuals can draw on what they've written to set out the group's multiple and/or shared perspectives, and then collaborate to create a 3-2-1 that can be shared with the entire class for follow up discussion. Teachers might collect each group-generated 3-2-1 response to review and draw on as the basis for follow up full group discussion. Evaluate the individual and/or group writings to assess students' critical reading acumen.	Prep: Low In class: Medium Analysis: Medium
One-sentence summary	Students summarize knowledge of a topic by constructing a single sentence that answers the questions, "Who does what to whom, when, where, how, and why?" The purpose is for students to define features of an idea.	Evaluate the quality of each summary quickly and holistically. Note whether students have identified the essential concepts of the class topic and their interrelationships. Share observations with your students.	Prep: Low In class: Medium Analysis: Medium
Background knowledge probe	Before introducing an important new concept, subject, or topic, students respond to questions that will probe their existing knowledge of that concept, subject or topic.	Classify responses into groups (e.g., prepared/non-prepared; no knowledge/erroneous knowledge/OK knowledge). Use the information to revise your plans for teaching this topic.	Prep: Medium In class: Low Analysis: Medium

Goal ranking/ matching	Used in the first week of class; students list the learning goals they hope to achieve through the course and rank the relative importance of those goals.	Look for patterns in students' goals and categorize them accordingly. Contrast the list and rankings with your own ranked goals. Report back indicating how and why you will include (or not) the goals mentioned by the students.	Prep: Medium In class: Low Analysis: Low/ Medium
Name	**Description**	**What to do with the data**	**Effort Needed**
Misconception check	Students respond to a questionnaire that elicits information about ideas and beliefs that may hinder or block further learning.	Organize the information to answer these questions: What misperceptions or preconceptions do students have that may interfere with learning? How many students have them? How deeply embedded are these?	Prep: Medium In class: Low Analysis: Medium
Memory matrix	Students fill in cells of a two-dimensional diagram for which the instructor has provided labels. For example, in a music course labels might consist of periods (Baroque, Classical) by countries (Germany, France); students enter composers in cells to demonstrate their ability to remember and classify key concepts.	Tally the numbers of correct and incorrect responses in each cell. Analyze differences both between and among the cells. Look for patterns among the incorrect responses and try to determine what the cause might be.	Prep: Medium In class: Medium Analysis: Medium
Student generated test questions	Ask students to write test questions and model answers for specified topics. This will engage students in evaluating course topics, reflecting on what they understand, and in learning to develop good questions.	Make a rough tally of the questions your students propose and the topics that they cover. Evaluate the questions and use the good ones as prompts for discussion. You may also want to revise the questions and use them on the upcoming exam.	Prep: Medium In class: High Analysis: High

Selected Active Learning Activities and Assessments

Name	Description	What to do with the data	Effort Needed
RSQC2	This 5-step protocol – Recall, Summarize, Question, Comment, and Connect – can be used to engage students in focusing on a previous class/lab session, a section/unit at its mid-point or closing stages, or even to focus on single reading/lecture or set of either. Teachers develop one question/prompt for each of the five steps, aiming to engage students in gathering and synthesizing data, expressing new questions, and connecting the pieces to express new understandings and/or insights.	The five steps can be woven into a class session, providing a framework for actively engaging students throughout a lecture or activity; the Recall and Summarize steps can be embedded in students' assigned preparing for class work, serving as the "ticket in" for a class session. The development of questions provides opportunities for students to engage in peer learning and to ask authentic questions during class. By using note cards or student response systems allowing for paragraph answers, instructors can collect Comment and Connect responses, for review, reviewing for levels of understanding as part of planning a next presentation, an upcoming review session, follow up homework, and/or a general report to students.	Prep: Medium In class: High Analysis: High