

Interactive Techniques

TA Action: Lecture

1. Picture Prompt – Show students an image with no explanation, and ask them to identify/explain it, and justify their answers. Or ask students to write about it using terms from lecture, or to name the processes and concepts shown. Also works well as group activity. Do not give the “answer” until they have explored all options first.
2. Why Do You Think That? – Follow up all student responses (not just the incorrect ones) with a challenge to explain their thinking, which trains students over time to think in discipline-appropriate ways.
3. Think Break – Ask a rhetorical question, and then allow 20 seconds for students to think about the problem before you go on to explain. This technique encourages students to take part in the problem-solving process even when discussion isn't feasible. Having students write something down (while you write an answer also) helps assure that they will in fact work on the problem.
4. Pass the Pointer – Place a complex, intricate, or detailed image on the screen and ask for volunteers to temporarily borrow the laser pointer to identify key features or ask questions about items they don't understand. *Note: remote control can be given to student in Zoom to allow them to control the pointer*
5. Word of the Day – Select an important term and highlight it throughout the class session, working it into as many concepts as possible. Challenge students to do the same in their interactive activities.
6. Recall, Summarize, Question, Connect, and Comment – This method of starting each session (or each week) has five steps to reinforce the previous session's material: recall it, summarize it, phrase a remaining question, connect it to the class as a whole, and comment on that class session.
7. Documented Problem Solutions – Keep track of the steps needed to solve specific types of problems. Model a list for students first and then ask them to perform similar steps.
8. Polar Opposites – Ask the class to examine two written-out versions of a theory (or corollary, law of nature, etc.), where one is incorrect, such as the opposite or a negation of the other. In deciding which is correct, students will have to examine the problem from all angles.

Student Responses

1. Zoom Polling – Anonymous polling option for student responses controlled through the Zoom call. Poll questions must be uploaded ahead of time. You can also simply ask students to type responses in the chat (yes/no) or use emoji reactions (thumbs up/thumbs down) under the participants tab for quick and easy polling.
2. Slido – A website that allows for free polling, and can create word clouds and other more elaborate/interactive response formats. The free version is limited to three questions.
3. Hand Held Response Cards – Ask students to create standardized cards that can be held aloft as visual responses to instructor questions. Example: handwrite a giant letter on each card to use in multiple choice questions.

Student Action: Individual (many of these can be used as partner-work or group-work instead)

1. Mind Dump – Students write for five minutes on the class material from lecture, and this paper gets collected. The entire unit's worth of mind dumps are returned as a surprise to help students study for the test.

2. One-Minute Papers – Students write for one minute on a specific question (which might be generalized to “what was the most important thing you learned today”). Best used at the end of the class session.
3. Muddiest Point – Like the Minute Paper, but asks for the “most confusing” point instead. Best used at the end of the class session.
4. Focused Listing – Students list several ideas related to the main focus point (example: What does a cell need in order to divide?). Helpful for starting new topics, such as a brainstorm.
5. What’s the Principle – After recognizing the problem, students assess what principle to apply in order to solve it. Helps focus on problem TYPES rather than individual specific problems. Principle(s) should be listed out.
6. “Real-World” – Have students discuss in class how a topic or concept relates to a real world application or product. Ask them to record their answer in a shared Google Doc.
7. Directed Paraphrasing – Students asked to paraphrase part of a lesson for a specific audience (and a specific purpose).
8. Truth Statements – Either to introduce a topic or check comprehension, ask individuals to list out “It is true that...” statements on the topic being discussed. The ensuing discussion might illustrate how ambiguous knowledge is sometimes.
9. Pro and Con Grid – Students list out the pros and cons for a given technique.
10. Harvesting – After an experience/activity in class, ask students to reflect on “what” they learned, “so what” (why is it important and what are the implications), and “now what” (how to apply it or do things differently).
11. Defining Features Matrix – Send out a simple table where students decide if a defining feature or concept is PRESENT or ABSENT (applies or does not apply).

Student Action: Groups or pairs

*For remote settings this is best done in breakout rooms. You should provide students with an activity sheet or Google document so that they can refer back to the prompt while still in their breakout rooms.

1. Jigsaw (Group Experts) – Give each group a different topic. Re-mix groups with one planted “expert” on each topic, who now has to teach his new group. Each student debriefs the wisdom of the previous group to his/her new group. Note: To get an expert from each group into the new group, you will have to assign breakout rooms ahead of time.
2. Mystery Numbers – Every student in the group gets a unique number (such as 1-5), but the teacher doesn’t announce until AFTER the discussion period which person (number) is going to report back to the larger class. This will convince everyone to participate fully.
3. Associations and Applications – In groups, students provide associations (what other concepts does the topic connect to) and applications of concepts discussed in lecture.
4. Ranking Alternatives – Teacher gives a situation, everyone thinks up as many alternative courses of action (or explanations of the situation) as possible. Compile list. In groups, now rank them by preference. This is especially useful for discussing experimental approaches.
5. Lecture Reaction – Divide the class into four groups after a lecture: questioners (must ask two questions related to the material), example givers (provide applications), divergent thinkers (must disagree with some points of the lecture), and agrees (explain which points they agreed with or found helpful). After discussion, brief the whole class.
6. Peer Review Writing Task – To assist students with a writing assignment, encourage them to exchange drafts with a partner. The partner reads the essay and writes a three paragraph response: the first paragraph outlines the strengths of the essay, the second paragraph discusses

the essay's problems, and the third paragraph is a description of what the partner would focus on in revision, if it were her essay.

Additional Online Interaction

1. Online Chat – For classes meeting at least partially in an online environment, instructors can simulate the benefits gained by a chat-room discussion without requiring everyone to meet in a chat room for a specific length of time. The day begins with a post from the instructor in a discussion board forum. Students respond to the prompt, and continue to check back all day, reading their peers' posts and responding multiple times throughout the day to extend discussion.
2. Pre-Class Writing – A few days before your computer-mediated class begins, have students respond in an asynchronous environment to a prompt about this week's topic. Each student should post their response and at least one question for further discussion. During the face-to-face meeting, the instructor can address some of these questions or areas not addressed in the asynchronous forum.

Exam Review

1. Circle/Highlight the Questions – Pre-make a handout that has a few dozen likely student questions or topics (make them specific) and ask students to circle the ones they don't understand or know the answers to, then turn in the paper before the review session. This will give you a better feel for what needs to be clarified during the review.
2. Board Rotation – Assign groups of students to each of the "boards" you have set up (either digital whiteboards or a Google Doc will work), and assign one topic/question per board. After each group writes an answer, they rotate to the next board and write their answer below the first, and so on. In the end, each group has put an answer on each board. This allows students to brainstorm material surrounding each topic.

Adapted from: Kevin Yee's original list (Creative Commons BY-NC-SA) found at <http://www.usf.edu/atle/teaching/interactive-techniques.aspx>