

Writing Strategies to Facilitate Learning/Writing to Learn Strategies

Minute Assessment

My favorite large-class technique for getting students to think and tell me what they are thinking is the “minute assessment” or “minute paper.” At some point in a lecture I pose a question or a pair of questions for the students. The students have one to a few minutes to write their responses. If I pose the question in the middle of the class period, we discuss the responses in class. Often, however, I use minute assessments as a way to end a lecture, then discuss the student’s responses at the beginning of the next class. A moment of writing is a productive way to use those last couple of minutes when students are restless and losing focus. Whether I use a minute assessment in the middle of class or at the end, I always have the students turn them in at the end of the class. I read through the student’s responses after class to get a sense for how the class is doing. In very large classes it is not strictly necessary to read all the responses— just enough to get a sense of the class. If I assigned the assessment at the end of lecture, I start the next lecture with a brief summary of what students had to say in their assessments. If the responses revealed considerable disagreement or confusion, I use that as the basis for a discussion or review of the difficult material. Regardless of the outcome, I think it is important to come back to the students with some summary of their assessments to make clear that you are really interested in their thoughts, so that they learn more from each other, and so that they will put effort into their next minute assessment. In theory, minute assessments could be graded or returned to the students with comments, but that would make their use impractical in really large classes. Instead, I simply give students a point or two of credit for turning them in. Recording who turned the assessments in also becomes one way to note attendance for at least some lectures. Minute assessments work best when they are conducted repeatedly during the semester so that students get used to them. In a typical semester, I usually assign 5–7 assessments. I do not tell the students when they will occur. The usefulness of minute assessments depends on choosing appropriate questions. In general, questions that are a little open-ended or that require some thought probably work best, as opposed to factual questions with one-word (or number) answers. You want the questions to cause the students to process some information and work to express themselves, albeit briefly.

The Concept Map

Concept maps are drawings that link concepts or facts together into logical networks with arrows. For example, for the terms “genes, environment, disease” one logical map would have both genes and environment linked to disease with arrows pointing to disease, because both genes and environment influence the occurrence of disease. To use a concept map assessment in class, I give the students a list of 5 to 10 terms and ask them to take a few minutes to connect those terms into a logical map. Usually I encourage them to work with the students next to them to generate conversation. I then ask the students to call out connections that I write on the board, and to explain why those connections are logical. Because students already have something on paper, they are fairly brave about volunteering their ideas. Students who disagree or have alternative connections in their concept maps can call those out, and we use the differences as a basis for discussion of how the terms and concepts are related to one another. After class, I study the students’ assessments. If the majority of assessments show logical connections, I may simply post a consensus map on the class website or present one quickly as review in the next class. If I find common errors, then I revisit those connections in the next class. See: Institute for Human and Machine Cognition for a free computer program for drawing and revising large concept maps.

(from: <https://distance.fsu.edu/instructors/encouraging-active-learning-large-classes>)

Think – Pair – Share

The instructor states an open-ended question. Individual students then spend a minute or two to **think** about and write a response. Students are directed to **pair** up with a partner to discuss their responses. The instructor reconvenes the class after a few minutes and calls on individual students to **share** the pair’s responses. Think-Pair-Share encourages students

to develop their own responses before discussing, and then allows students to compare responses before they are public, which can greatly facilitate participation, especially for risk-averse students. Additionally, calling on individual students (instead of asking for volunteers) in the final step demonstrates that all students are individually accountable, even in large classes.

Muddiest point

This technique, developed by Thomas Angelo and Patricia Cross (1993), can both promote active learning and provide the instructor with midcourse feedback on where students are still having the greatest difficulty. Students write in response to a small form stating, “The point that is still the most unclear for me about this unit is . . . ,” which they then pass to the instructor. Students may also be divided into groups to help explain to one another the points about which one or more of their members still find confusing. As a variant, at the end of class or just before a break, the instructor can ask: “What are the two most important points from today’s session?” or “What would make the material clearer for you?”

Send a Problem

Divide the students of the class into groups of approximately six to ten. Have each group develop and compose a problem or discussion question based on the material covered in the unit currently under study. They should also come up with their own written solution to the problem or set of key points to be discussed on that issue. Each group then sends its problem to another group, receiving a problem in return. After each group has worked on each of the problems, the entire class is reconstituted and the various solutions compared in discussion.

Top Ten List

Working in groups, students are assigned the task of creating lists—in reverse priority order—of the top ten facts or observations about a particular unit. The goal is not merely to identify what students believe are the most significant observations to be made about the material but to weigh them in significance.

Hypothesis-Testing

Process of science activities were exercises designed to help students generate testable hypotheses and explain observable phenomena, design experiments, and analyze authentic data from current scientific literature. For example, in one process of science activity (“helpers at the nest: pied kingfishers”), groups were charged with developing hypotheses to explain helping behavior in pied kingfishers. After large-group discussion of these ideas (facilitated by the Magic 8 Ball), groups analyzed authentic data on reproductive success in helpers and drew conclusions about the inclusive fitness benefits of altruism.

Peer Feedback

Students are asked to complete an individual homework assignment or short paper. On the day the assignment is due, students submit one copy to the instructor to be graded and one copy to their partner. Each student then takes their partner's work and depending on the nature of the assignment gives critical feedback, identifies mistakes in problem-solving or responds to a set of prompts from the instructor. You can ask students to then comment on how they've made use of their peers' feedback when revising their work.

Brainstorming

Introduce a topic or problem and then ask for student input. Give students a minute to write down their ideas, and then record them on the board. For example, “*What are possible safety (environmental, quality control) problems we might encounter with the process unit we just designed?*” could be a brainstorm topic in an engineering class.

Classroom Assessment Techniques

Some instructors use short, in-class writing assignments as a means to keep students mentally engaged in the course material and also as feedback to assess the extent to which students understand the material (Angelo & Cross, 1993). Writing also helps them learn to express their thoughts more clearly and focuses their attention on important elements of the course. Short writing assignments (a paragraph or two) can be given as pre- and post-lecture activities. Requiring students to write their thoughts or questions about the day's topic before the lecture begins will concentrate their attention on the topic and prepare them for active listening. At the end of the presentation, writing out their impressions of the lecture, and any questions they have about the topic, will help them place the material in context. It also provides valuable feedback to the instructor as a collection of possible test questions. Students can be asked to write short summaries of material at any point during a lecture. In summarizing, they select the most pertinent elements from the material and restate them in their own words. This process of synthesis and personalization leads to better, more permanent learning.

(from: <http://cfe.unc.edu/files/2014/08/FYC2.pdf>)

Daily Journal

The daily journal allows for more in-depth discussion of or reaction to course material. You may set aside class time for students to complete their journal entries, or assign this as homework. The only disadvantage to this approach is that the feedback will not be as "instant" as with the one-minute paper (and other assignments which you collect the day of the relevant lecture). But with this approach (particularly if entries are assigned for homework), you may ask more complex questions, such as, "Do you think that determinism is correct, or that humans have free will? Explain your answer.", or "Do you think that Dr. Kevorkian's actions are morally right? What would John Stuart Mill say?" and so on. Or you might have students find and discuss reports of scientific studies in popular media on topics relevant to course material, such as global warming, the ozone layer, and so forth.

Response to a demonstration or other teacher centered activity

The students are asked to write a paragraph that begins with: I was surprised that ... I learned that ... I wonder about ... This allows the students to reflect on what they actually got out of the teachers' presentation. It also helps students realize that the activity was designed for more than just entertainment.

Quiz/Test Questions

Students are asked to become actively involved in creating quizzes and tests by constructing some (or all) of the questions for the exams. This exercise may be assigned for homework and itself evaluated (perhaps for extra credit points). In asking students to think up exam questions, we encourage them to think more deeply about the course material and to explore major themes, comparison of views presented, applications, and other higher-order thinking skills. Once suggested questions are collected, the instructor may use them as the basis of review sessions, and/or to model the most effective questions. Further, you may ask students to discuss the merits of a sample of questions submitted; in discussing questions, they will significantly increase their engagement of the material to supply answers. Students might be asked to discuss several aspects of two different questions on the same material including degree of difficulty, effectiveness in assessing their learning, proper scope of questions, and so forth.

The Pre-Theoretic Intuitions Quiz

Students often dutifully record everything the instructor says during a lecture and then ask at the end of the day or the course "what use is any of this?", or "what good will philosophy [organic chemistry, etc.] do for us?". To avoid such questions, and to get students interested in a topic before lectures begin, an instructor can give a quiz aimed at getting students to both identify and to assess their own views. An example of this is a long "True or False" questionnaire

designed to start students thinking about moral theory (to be administered on the first or second day of an introductory ethics course), which includes statements such as "There are really no correct answers to moral questions" and "Whatever a society holds to be morally right is in fact morally right". After students have responded in writing to the questions individually, have them compare answers in pairs or small groups and discuss the ones on which they disagree. This technique may also be used to assess student knowledge of the subject matter in a pre-/post-lecture comparison.

Active Review Sessions

In the traditional class review session the students ask questions and the instructor answers them. Students spend their time copying down answers rather than thinking about the material. In an active review session the instructor poses questions and the students work on them in groups. Then students are asked to show their solutions to the whole group and discuss any differences among solutions proposed.

Work at the Blackboard

In many problem solving courses (e.g., logic or critical thinking), instructors tend to review homework or teach problem solving techniques by solving the problems themselves. Because students learn more by doing, rather than watching, this is probably not the optimal scenario. Rather than illustrating problem solving, have students work out the problems themselves, by asking them to go to the blackboard in small groups to solve problems. If there is insufficient blackboard space, students can still work out problems as a group, using paper and pencil or computers if appropriate software is available.

Visual Lists

Here students are asked to make a list--on paper or on the blackboard; by working in groups, students typically can generate more comprehensive lists than they might if working alone. This method is particularly effective when students are asked to compare views or to list pros and cons of a position. One technique which works well with such comparisons is to have students draw a "T" and to label the left- and right-hand sides of the cross bar with the opposing positions (or 'Pro' and 'Con'). They then list everything they can think of which supports these positions on the relevant side of the vertical line. Once they have generated as thorough a list as they can, ask them to analyze the lists with questions appropriate to the exercise.

Initiation

Engage your students from the start—weave course content into icebreakers, warm-ups, etc. When students walk in, given them an index card on which to write a question about the day's content. You can collect them, redistribute them to students to answer in small groups, or use them for the following lesson. Get their brains ready to receive the information using schema activators/hooks (start with a story, a problem, an opening question, an interesting fact all related to the day's content).

(from: Silberman, M. (2006). *Teaching Actively: Eight Steps and 32 Strategies to Spark Learning in Any Classroom*. Boston: Pearson)

More WTL Activities from: WAC Resources from the University of Toledo

Retrieved from: http://www.utoledo.edu/al/wac/wac_resources.html

Free Writing

This technique can be used frequently. The exercises are a good way for the students to begin learning a new subject or to start a paper. Tell the students to simply scribble away for six or seven minutes as fast as possible. It is much like answering a question on an examination. It is to be an essay, not an outline. Each essay should have a title, the student's

name and the date. Sometimes the students hand them in, and sometimes they simply keep them. After they write in class, a further refinement is to form groups of four or five and read to each other. One rule is that everyone takes turns reading the paragraphs before discussing them, and another rule is for them to give their names and the title of the essay. They must be sure to read, not explain what they wrote

Using Words, Images & Numbers

Use writing regularly in a variety of ways such as explaining formulas, drawing ideas and labeling sections of them, or using a combination of writing in numbers, pictures and words. Allow students to practice writing in your discipline.

Short Papers

Assign a series of one page papers -- several small papers, instead of one or two large, or make one page papers optional. Give credit for the number of one page papers completed: 5 - X points 4 - X points 3 - X points

Journals

Stagger the collection (and your reading) of journals. For instance, collect 20 journals each week; you can look at journals while students are engaged in group work. You can assign a course journal with separate sections: one for class responses, for prompts about reading, or one in which students respond on their own to assigned daily reading. Collaborative papers: one way to make these work more effectively is to give students a set number of points to distribute among themselves.

Question box

Use questions generated by students to begin class. Place box at door so when students leave they may drop question in box. Example - "Everything you always wanted to know about English, but were afraid to ask." Place question on overhead in student's writing for maximum effectiveness.

Peer Review

Build peer review into paper - students must have a peer review attached to their paper when it is handed in. Use peer groups and collaboration for drafts or to help students revise (re-vision) their ideas.

Writing Ticket

Students must have paper, paragraph, question, memo, or any other written assignment to gain admission into class. These assignments may be used to compile extra points or generate discussion and need not be graded. The success of this is largely dependent on a "bouncer," a student who takes papers at the door and marks off names of students with papers, or turns away those who don't have papers.

Close-of-Class Questions

Have students review notes and write one or two possible essay questions for exam, a problem that imitates the one discussed, a summary of the discussion, etc.

K-W-L

Check student expectations. Begin the quarter by asking students any of the following:
What do you know about this subject

What do you think you will learn in this class?

What do you hope to learn in this class?

Assignment Design

Design paper assignments in stages. Rather than assign one long paper, break down research into component parts. Assign multiple drafts in stages (first an idea paragraph, then an abstract, then a three or four page paper with resources, then a seven page draft). Selectively read them or have students read each other's papers.

Assign multiple drafts; spot read them, have your tutor read them, or have students read each other's drafts for feedback.

Let students participate in assignment making. Hand out assignments, or put on overheads and clarify and edit with students. Conversely, if an assignment "goes wrong," critique it with students and make it part of the content-writing-learning process.

Spontaneous Writing

Have students write at the beginning of class, the end, or when a heated discussion breaks out, when you are not sure they understand a concept or process. Have THEM discuss these in small groups so they can either teach each other or discover their specific questions (rather than just, "I don't get it.").

Non-Graded Writing

Use non-graded writing so students become familiar with manipulating disciplinary language and concepts. These do not all have to be read because students learn by writing them. (But they often provide valuable insight into how students are processing information.)