

ENHANCING TEACHING ACTIVITIES

Helping student to accept that there is more than one right answer

I have heard many faculty say that our students have difficulty accepting that there might be more than one right answer or no right answer. Here's an in-class way to help them:

1. Ask students for more answers after one has been given, when several possibilities exist
2. When you ask a question say, I am looking for three or more possible answers, meanings, results, interpretations, etc.

Planning Lectures

1. First consider what you are trying to accomplish. Lectures are best for the following:
 - to pique student curiosity, motivate to learn if instructor's style is very expressive
 - to model an approach to solving problems or thinking style
 - to give background knowledge/summary that might not be available or as integrated
 - to help students learn very sophisticated material for which resources are not available at their level
 - to present an organization, structure to help learn material
 - to add personal viewpoint, insights into material
 - to present up-to date material that is not available elsewhere
2. If your purpose is > 1 of the above, then consider giving a lecture. If not, consider other student-active teaching formats. If you are planning to cover material in the textbook or other course materials, lecturing may not improve the students' understanding. Once students learn that you are duplicating what is in the textbook they will choose to do either come to class or read the book few will choose to do both.
3. If you decide to lecture - follow these steps:
 1. prepare class objectives
 2. whenever possible limit class of 50 minutes to 1 major topic
 3. plan an overview of the lecture - time content schedule
 4. try to avoid the 2 most common mistakes of lectures - covering too much material and delivering the material too fast
 5. divide the major topics into 10-15 minute chunks
plan student-active activities between the lecture chunks
 6. plan the internal organization of the lecture:
Introduction
the body
the conclusion
 7. develop appropriate visuals
 8. think about illustrating abstract concept and relations and examples
prepare easy to follow at a glance lecture notes, graphic notes may be fine
notes should be sketchy as you know the material
key concepts to cover do not write out notes
put directions to yourself in notes - ask students to do ____, write on board ____, etc.

Brief description of activities designed to enhance levels of learner engagement in DEEP learning

ADAPTED (partial list) from: <http://www.usciences.edu/teaching/tips/activities.shtml>

Making lectures more meaningful learning experiences

To make your lectures more meaningful learning experience for your students:

1. Let students know about the objectives that you are trying to achieve
2. Have an attention-gathering introduction
3. Divide your lecturing into mini-lectures of 15-18 minutes each
4. Give the students something to do in between the mini-lectures-a review of what was covered or a problem to solve
5. Conclude with a 2-5 minute time to let the students recap of the most important points in the lecture either through a classroom assessment technique or an oral summary
6. Encourage students to take their own lecture notes
7. Provide effective handouts.

Helping students to understand a difficult concept

If your students are having trouble understanding a concept that you want them to learn, try to give them an analogy in a completely different field, perhaps even in a non-academic field. For example, if your students do not write introductions and bridges in their papers, show them that TV shows and movies have a set beginning (title, main characters are identified, etc.) and specific ways to help the viewer know that the scene is changing (fades outs, etc.).

Getting students to effectively read and use their textbooks

To get students to do their reading assignment, begin every or some (unannounced in advance) with a short 3-4 item quiz on their reading. From these quizzes, students earn a maximum of 10 bonus points towards their final total number of points earned (not the average). While the total number of points earned is very small, it will not really effect their grade, it will motivate the students to do the assigned reading.

Getting students to write better reflective journals

More faculty are asking their students to write reflective journals, which is a good thing. However, some student have no idea what you mean by reflection (except perhaps what light does to a surface). You need to give them very specific directions or guidance as to what type of reflections you want. Generally you want students to reflect on 4 what's : What happened, so what, now what and what does it mean?

Getting students to question the written word, even textbooks

When you are planning your reading for your next course you might consider trying a few assignments like this to get students to see that textbooks differ in how they give the "facts". Do not assign a particular text instead put many different textbooks on reserve for the class and assign each student to use the comparable chapter in at least two of them in order to complete the assignments for each week or a few weeks. This exercise is intended to get students to understand that the written word, even textbooks, are works of individual authorship and not TRUTH.

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Getting your students to reflect on what they should be learning in increase understanding

Ask your students to do a learning journal that you will collect (and if time allows offer individual feedback on) a few times during the semester. To make the students take this assignment seriously, have it count a significant amount of the final grade. In the learning journal ask the students to record either weekly or more often their reactions or responses to classes, readings, assignments commentary or critique on reading or lectures reflection on how understanding the subject matter changed during the course how they can apply what they learned to other courses, their career further questions or areas they want to learn about coming from the content, assignment, etc. other topics that relate to their learning. This should give you feedback as to if the students are learning what you wanted them to learn, should increase their engagement with the reading and classes.

Getting a quick read on how students are doing while checking for who is enrolled

Once the add-drop period ends, the registrar's office always verify student enrollment of each individual. Instead of taking roll in class or checking if all students have handed in at least one assignment, give the students a very brief formative assessment (i.e., 1 question on the major idea they have learned so far in the class, or their most confusing aspect of the content thus far), ask the question in several venues and request that each student complete the activity once with their name on their work. You can first give them a few minutes in class to complete the assessment, you can post it on your Blackboard site for your class and email your students (can be done quickly from your Blackboard page, if you created one) the same assessment assignment. You can also tell your students to tell their friends to complete the assignment if they still want to be considered enrolled in the class. A complete record from all your students will give you the information requested by the registrar's office and some insights as to how much the students are learning or how confused they are.

Helping students to see flaws in their reasoning or correcting improper conclusions

Sometimes students fail to see why their logic or reasoning flawed or they bring in extraneous facts which they think leads them to a conclusion. Other times students draw cause and effect conclusions that may not even be related or at best correlation. This can be a serious problem particularly with advanced or graduate students working on their research. Faculty may have a hard time trying to get these students see their flaws in reasoning. Try asking the students to graphically represent their reasoning either through a flow chart, concept map, time line relationship, cascade cycle, numerical graph of the relationship, etc. By forcing them to move from the verbal to a graphic they may better see what is wrong because they cannot use their arguments in the same way.

Getting your students to read before class and engage more during the class through use of a communication form

Here is an idea to help students come to class having read the assignment and engage in the material. Develop a single sheet template for the students to copy and use for each class. The form has 4 parts. In the first part students put their contact information and a photo of themselves. The form with this part completed should then be copied to be used repeatedly. In the second part the students list the readings and their reflections of the readings and should be done before class. The third part focuses on the class meeting. It can contain questions such as, "What new information did you gain from today's class? How did it help you? What did the instructor do particularly well today? Use questions that fit what you are doing. The fourth part is for the students to ask questions, clarifications or comments. Students should use the last five minutes of each class to complete parts 3 and 4; this serves as a good review. You should try to read these forms or a sample of these forms right after class so that you can respond to questions or concerns the next class.

Helping students to use text and other readings more effectively

Beginning students and some more advanced students consider the purpose of reading texts or other materials is to take information from the text. However, faculty consider the purpose of such readings is to make meaning out of the information contained in the reading. Ways to help students make this transition include:

1. Ask the students to answer specific questions about the reading that are not just factual recall
2. Direct students to a more analytical approach to the concepts that requires them to reflect, synthesize or evaluate the text

Planning your course to help students acquire the thinking skills of the discipline

The nature of the discipline, the process of critical thinking in a discipline is just as important as the material and concepts in your discipline. However, we often tend to give these skills and processes less emphasis in our day to day teaching. So now that you are planning or revising your courses, plan time within the schedule to go over how you think in this discipline. Role model what you do by thinking out loud as you solve problems. Students don't get the thinking process naturally if they just hear about the content or see experts solving problems easily; however, once they understand the thinking process within the discipline, the content will come much easier to them. This emphasis on role modeling critical thinking skills applies at all levels of courses as the critical thinking skills required varies with the complexity of the material.

Engaging students in the course and the subject matter on the first day of class

Prepare a game show, trivia quiz, bingo or other fun activity for the first day of class. You can ask 2 different types of questions about your course, the syllabus, your expectations and course requirements, and about the subject matter to be studied. The subject matter questions might be about general terminology and well known concepts. Try to ask some questions that students will know to help them connect what they previously know to what they will be learning. Both types of questions are great stimuli to get students discussing, thinking about this course and asking you further questions.

Making your (large) lecture classes much more interactive

One of the problems with large lecture classes is that it is very difficult to hear from most students, either to assess their knowledge or determine what they do not know on an immediate and on-going basis. However, we now have a technology that can overcome these problems. Just like on TV and at large professional meetings, we now have an audience response system at USP. The hardware has been wired into all of our large lecture halls. We have 45 clickers for you to borrow to see how they work (you can ask groups of students to respond). If you use PowerPoint, you can easily learn how to incorporate interactive questions and get students' answers to respond). If you plan to use clickers on a regular basis and want to record the students' individual responses for participation grades, the students need to purchase their own clickers that are available from the bookstore.

Personal reflective annotations for reading assignments: A writing-to-learn assignment

Here is a different way to get students to actively read an assignment and be ready to come to class to discuss it.

- In addition to the regular highlighting or underlining student need to add meaningful margin notes interacting with the reading. The notes do not have to be very long or too many per assignment.
- The instructor should give a sample of appropriate annotations and explain them such as including challenges to the reading, further examples, references to other sources, personal experiences that relate to the reading, ideas on applications, personal reactions to the reading, compare or contrast with similar concepts.
- The assignment requires that students hand in their copies of their book containing their annotations on a reading. Students need to put their name across the front cover of the book and an identifying mark (such as part of their student identification number) inside to confirm that it is their property
- These assignments should be completed prior to the class discussion of the reading.
- The grading can be done quickly and globally by preparing a checklist of comments and indicating which ones apply to each of the students' work
- This type of assignment works best for prose or essay type of readings and probably not for textbooks. The author of this idea recommends only using this annotations assignment for readings that the instructor has enduring value for the students and not on a routine basis.

Adding energy to a class when the students are dragging

If you have to teach a boring topic right around school break, you may find that the students' energy is dragging. You can get the students more engaged in the topic and the class by using a game show format to make things livelier. Plan what you want to do several class periods before the day you plan to use it. Tell the students in advance of your plans, tell them to come prepared, and enlist their help. They may help you write the questions to be used for a quiz show, or the answers for jeopardy, or any other format. People who use games find that the students learn the material better that day, but there are other nice consequences also. Students tend to bond with those on their team and class discussion goes up even after the games session is over.

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Good questions for reflection

We often want our students to be more reflective about the course or the content. However, asking good reflection questions can be difficult.

Here are a few suggestions:

Why would I have you read/write about this?

Why do you think we just did that exercise?

What about what we just covered is applicable to other subjects, to your life, to your career?

What is the bottom line message in what we did/read?

Being more explicit than, "Do you understand"?

Many faculty do a quick comprehension check in their classes by asking the students, "Do you understand"? In most cases the responses are nods. Everyone thinks they understand. Some students may not know to what level or what detail they should understand. To help the students see if they really comprehend the material ask very explicit questions such as:

- Identify _____ (the consequences, causes, etc)?
- Calculate the _____
- Evaluate the effects of _____
- Compare and contrast _____ with _____
- Determine the reasons why _____

Helping students to learn how to do good summaries

Give your students a very short lecture or have them read a short article. Ask them to develop a summary of the lecture or reading. Then give them your own summary. Ask them to describe in writing how and why your summary was different from theirs. Also ask them to describe what they learned from doing this activity. Collect their comparison and the reflection on their learning, but not their summary. This exercise should be enlightening for the students.

Getting students to value the importance of and develop abilities to interpret non-prose text

Early in the semester, copy a complicated table, graph, figure, flow sheet, diagram, etc. from something the students will read during the semester. Ask the students to explain what it means, and what they learn from it. Tell the students to try to complete the exercise, but it will not count toward their grade. Then go over the graphic with the students. This exercise should illustrate the importance of non-prose materials in their readings.

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Asking good questions to stimulate students' reflection

Most of us realize the value of getting students to reflect on what they are learning or doing. Reflections are especially important for service-learning, field experiences, laboratories and clinical rotations. Yet directing students to write insightful reflections is difficult. Asking students appropriate questions often improves the quality of their answer.

- What did you learn?, In what ways were you pleased/frustrated with how things went?
- What will you do differently next time?
- What were you thinking as you arrived at XXX? How did your thoughts change during the encounter and what were you thinking about as you left?
- Give an example of an encounter that you had with XX. Did it go as you expected?
- What have you discovered about yourself as a learner over the past several weeks? Describe how you will use this new found insight.

Use a different combination of these types of questions for every reflection.

Assessing students and working with a smaller group within a larger class

Here is a way to assess students preparation for class or understanding of content covered before and then work with a smaller group of students from a larger class.

Tell students to be prepared for a quiz. Give a short quiz (15-20 minutes), collect papers and go over the answers. Announce that if you got an 80% (you set the level where you want it-high or low) on the quiz, you are excused from the rest of class if you want to leave. Now you should have a smaller number of students in the room. You can work with these students to go over the questions they did not understand, help these students with this material, solve problems, work in small groups, etc. The possibilities are endless in terms of what you want to cover-mastery of simple concepts, solve problems, etc.

Developing metacognition (or thinking about one's learning)skills

One of the essential characteristic of self-directed, lifelong learners is that they think about their own learning and think about how they can continue to learn. Here is a way to plan for this to happen in your course. This should be the final assignment of the course, due the last day of class, but given to the students at the beginning of the semester. This short paper should also count toward their grade. Answers to these questions may be helpful for you to think about how to improve your course or to use in scholarship of teaching and learning. Ask the following questions, but you can adapt it to what you want.

1. What are the most important things you learned in this course?
2. In what ways was the course what you expected, and different from what you expected?
3. What aspects of the course helped your learning, and why? What aspects did you find unhelpful and why?
4. What did you do this semester that improved your learning?
5. What do you think you will remember from this course in a few years?
6. How will your experiences in this course affect you as a student?
7. How will your experiences in this course affect your everyday life?

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Getting students to engage in their reading

Faculty across all disciplines complain that students do not learn from reading textbooks or other assigned readings. Most students highlight their books which is a rather passive activity and does not require really thinking about their reading. Asking students to keep a journal is a good way to get them more involved in their reading. You want them to have cognitive and affective reactions to what they are reading.

Possible questions for students to answer in their reading include:

- What do you think about the key points in the reading?
- What is the impact of X on Y?; Rewrite a table or image in your own words; Predict the next steps.
- Choose the 5 most important phrases in the section. Why are they so important?
- How does this apply to me, to my culture, my patients, to the world, etc?

Helping students to think about their learning

When people think about what they are doing or what they are thinking about, they tend to have more insight into what they are doing. Psychologists call this process meta-cognition. Educators are now emphasizing the importance of meta-cognition in the education process. Here are a few ways that you can incorporate meta-cognition into your courses:

- Ask students to write a justification for their work.
- Ask students to keep a learning journal that records their questions or lack of understanding as they study or read. These questions can be addressed to the teacher in class or during reviews.
- Ask students to assess how confident they are in their ability to solve problems or learn new content.

ENHANCING STUDENT ASSIGNMENTS

Helping students to prepare papers, presentations, lab write-up, etc.

Sometimes collaborative brainstorming can help students prepare for a written assignment. Here's a way to structure such a collaboration:

Have students work in groups of 4-5, and have everyone put their name on a sheet of paper. Then each student writes to title of their assignment and passes the paper to the next person. Each of the next persons within a group will write 1 sentence on 1 of the major topics of the paper/presentation. Everyone will work on helping each other's paper. For example, each person might write an introduction point for the title they just received, then pass it to the next person. On the third time, each student will write the statement of purpose for the paper they just received. Then pass on the next person who writes on the methods. The fifth time the papers are passed, the students each write on the results. The last time the students write on the conclusion or the interpretation for that piece of paper. By using this exchange of papers, students can see how others are thinking and learn from each other, as well as stimulate further thought or research. By the end of the session, the student will have offered suggestions to each other in an efficient way. Students might also make suggestions on what has been previously written. At the end of the session, each person collects his/her original paper full of suggestions for sections of the paper.

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Ways to help students master the material, acquire skills

If you want students to master the material or become skillful at doing something, you might try the following:

1. Ask students to redo assignments to improve their skills or understanding. You might have to reduce the number of required assignments.
2. Give students on-line multiple choice questions before class, expect the students to do the assignments before coming to class, including answering the questions
3. Ask students to develop test items themselves, good ones might be selected for the actual exam.

Involving more students in a fun way to review for a test

This is a slight variation on the quiz show review idea.

- Ask students to prepare short answer or multiple choice questions on the material that will be on an exam and bring them to the review class.
- Determine which students have brought questions and distribute them across the groups. You could even assign the groups in advance and ask them as a group to make up questions or to review each other's questions prior to class.
- Divide the students into teams of 3-5 students per teams
- Decide which team will ask each question. However, prior to them reading the question, ask another teams to be the judge. The judging team has to decide if it is a fair and appropriate question once it is asked. After they rule that the question is good, then call on another group to answer the question. The judging team has to determine if the answer is correct. This gets 3 groups involved for every question. If the answer is wrong, then call on another team to answer.

Keep account of which role each of the groups have played and try to insure even or almost even participation. You can comment or elaborate on the concept after the question has been answered.

Keeping students more engaged with guest lecturers or student presenters

Sometimes when someone beside the instructor of record for the course presents, including guest lecturers or students, the rest of the class does not pay as much attention. To keep students engaged with these other speakers, you can ask the students to complete a double entry journal on the presentation. On left side of the page the students should list the main points of the presentation. On the right side of the page the students should list a response, a reaction, or an example for each main point. Asking students very specific assessment questions, (not general ones like was this a good presentation) also helps students to focus on the presentation more.