Teaching Strategies

Choosing a teaching and learning strategy is not an easy task. Strategies need to be chosen carefully in order to contribute most effectively to student learning. Anytime students are actively engaged in learning, exploring new ideas, and grasping the conceptual nature of the discipline, they are learning in a deeper and more meaningful way to apply that knowledge and those skills to other parts of their lives. The following information in this section outlines some strategies that may be used to enhance student learning.

Lecturing: Ten Things to Remember

Adapted from Cashin, W.E. Effective Lecturing. www.theideacenter.org

1. Lecturing is especially useful to convey knowledge, but is not well suited for higher levels of learning.
2. Decide what you want the students to know and be able to do as a result of the lecture.
3. Outline the lecture notes — first your major points, then the minor points that elaborate on or explain each major point.
4. Choose relevant, concrete examples, in advance of the lecture, selecting examples familiar and meaningful to the students.
5. Find out about the students, their backgrounds, and their goals.
6. Permit students to stop you to ask relevant questions, make comments, or ask for review.
7. Intersperse periodic summaries within the lecture.
8. Start with a question, problem, current event, or something that just grabs the students’ attention.
9. Watch the students. If you think they don’t understand you, stop and ask them questions.
10. Use active learning techniques. Use technological aids, such as multimedia presentations.
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<th>Strategy</th>
<th>Teaching and Learning Strategy Definition and Examples</th>
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| Direct Instruction | The Direct instruction strategy is highly teacher-directed and is among the most commonly used. This strategy is effective for providing information or developing step-by-step skills. It also works well for introducing other teaching methods, or actively involving students in knowledge construction.  
**Possibilities Include:** Lecture, Slide Presentation, Explicit Teaching, Drill and Practice, Didactic Questions, Demonstrations, Guided and Shared – reading, listening, viewing thinking, Guest Lecture, Video, Multimedia Presentation |
| Interactive Instruction | Interactive instruction relies heavily on discussion and sharing among participants. Students can learn from peers and teachers to develop social skills and abilities, to organize their thoughts, and to develop rational arguments. The interactive instruction strategy allows for a range of groupings and interactive methods. It is important for the teacher to outline the topic, the amount of discussion time, the composition and size of the groups, and reporting or sharing techniques. Interactive instruction requires the refinement of observation, listening, interpersonal, and intervention skills and abilities by both teacher and students.  
**Possibilities Include:** Debates, Role Playing, Panels, Brainstorming, Peer Partner Learning, Peer Assessment, Discussion, Laboratory Groups, Labs, Think/Pair/Share, Co-operative Learning, Jigsaw, Problem Solving, Tutorials, Interviewing, Conferencing, Team-Based Learning, Seminars |
| Indirect Instruction | In contrast to the direct instruction strategy, indirect instruction is mainly student-centered, although the two strategies can complement each other. Indirect instruction seeks a high level of student involvement in observing, investigating, drawing inferences from data, or forming hypotheses. It takes advantage of students’ interest and curiosity, often encouraging them to generate alternatives or solve problems. In indirect instruction, the role of the teacher shifts from lecturer/director to that of facilitator, supporter, and resource person.  
**Possibilities Include:** Problem Solving, Case Studies, Reading, Inquiry, Reflective Discussion, Writing, Concept Formation, Concept Mapping, Tutorials |
| Independent Study | Independent study refers to the range of instructional methods which are purposefully provided to foster the development of individual student initiative, self-reliance, and self-improvement. While independent study may be initiated by student or teacher, the focus here will be on planned independent study by students under the guidance or supervision of a classroom teacher. In addition, independent study can include learning in partnership with another individual or as part of a small group.  
**Possibilities Include:** Essays, Computer Aided Instruction, Journals, Learning Logs, Reports, Learning Contracts, Homework, Research Projects, Assigned Questions, Learning Centres, Independent Project/Course, Self-Assessment |
| Experiential Learning | Experiential learning is inductive, learner centered, and activity oriented. Personalized reflection about an experience and the formulation of plans to apply learning to other contexts are critical factors in effective experiential learning. The emphasis in experiential learning is on the process of learning and not on the product.  
**Possibilities Include:** Field Trips, Narratives, Conducting Experiments, Simulations, Games, Storytelling, Field Observations, Role-Playing, Model Building, Surveys, Studio Labs, Community Engaged Learning, Study Abroad, Community Service Learning, Undergraduate Research, Internships, Practicum, Co-op Placement, Apprenticeship, Field Courses |
Metacognition: Purposefully thinking about one’s own thinking strategies – when students are able to “learn to think” and “think to learn”

Three critical steps to teaching metacognition

1. Teaching students that their ability to learn is mutable
2. Teaching planning and goal-setting
3. Giving students ample opportunities to practice monitoring their learning and adapting as necessary

"[I]t is terribly important that in explicit and concerted ways we make students aware of themselves as learners. We must regularly ask, not only 'What are you learning?’ but ‘How are you learning?’ We must confront them with the effectiveness (more often ineffectiveness) of their approaches. We must offer alternatives and then challenge students to test the efficacy of those approaches." (Weimer, 2012)

Tips for Fostering Metacognition

1. **Formative Assessment:** Classroom assessment techniques that are short, reflective and provide feedback on learning e.g., The Muddiest Point—Giving students practice in identifying confusions: “What was most confusing to me about the material explored in class today?”

2. **Visual Representation of Course/Class:** Diagram, flowchart, concept map of core concepts
3. **Employ Active Reading**: Guiding questions for readings, ‘test’ on key concepts next day or via online quiz, have students teach each other what read, focus attention on solving a problem

4. **Teach in Multiple Ways with Choice**: Offer learning experiences that tap into a variety of modes of learning – we all learn through multi-modal ways and need to experience a variety (choice is good too) ways of coming at learning of a new topic

5. **Exam or Lecture Wrappers**: Questions, surveys or discussions after learning/tests/activities have taken place that focus on the learning and not the event e.g., take up a test as to how students studied, prepared, took the test, hardest questions, easiest questions

6. **Self-Assessments**: Prior knowledge of performance on a task – do pre + post!

7. **Reflective Writing Activities**: On in class activities, readings, videos, class presentations e.g., most important point learned from reading, most valued learning and integrating reflection into course work: integrate short reflections (oral or written) that ask students what they found challenging or what questions arose during an assignment/exam/project

8. **In Class Feedback on Learning**: Best way to support learning = provide immediate feedback e.g., clickers/polling, minute papers, ticket out door, surveys, group discussions on learning

9. **Students Creating Questions**: Have students design possible test or exam questions on readings, content, lessons – but also supply the answers.

10. **Portfolio Development**: Students build a portfolio of their work and reflect on it. Learning is about the progress made and the focus on how they learned than what they learned

11. **Model Metacognition**: Think-aloud to share with students how you process a problem for example: model the thinking processes involved in your field and sought in your course by being explicit about “how you start, how you decide what to do first and then next, how you check your work, how you know when you are done”
12. **Learning Logs**: Student accounts of how learning is going in a class, may read a couple of times a term: "What about my exam preparation worked well that I should remember to do next time? What did not work so well that I should not do next time or that I should change?"

13. **Online Forums for Processing Learning**: Allows students to post pictures, snapshots of their best learning experiences, tips for sharing how to learn etc.

14. **Retrospective Post-assessment**: Pushing students to recognize conceptual change: “Before this course, I thought evolution was... Now I think that evolution is ....” or “How is my thinking changing (or not changing) over time?”

15. **Teach Metacognitive Note-Taking Skills**: Beginning of Class: Help organize lesson (learning outcomes; connections to last class/other learning – Middle of Class: Remind to record ah-ha moments, write questions, confusions from class in notes – End of Class: Suggest students draw a line after notes and consider “most important ideas”, “what relates to previous learning”, “where do I need to go and get help”, “most interesting learning from class”

“A teacher who is attempting to teach without inspiring the [student] with a desire to learn is hammering on a cold iron.”
— Horace Mann

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**Creating Dialogue in the Classroom**

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One of the most important goals – and greatest challenges – of educators is to create a learning environment in which the students participate actively in their education by becoming engaged with the course material. An effective way to promote active participation is through dialogue in the classroom. Unfortunately, many students, trained by years of passive education and cowed by the fear of making mistakes, are extremely reluctant to enter into dialogue in the classroom. So, how do you get students to begin to actively engage in substantive dialogue? We argue that the essential pre-requisite for classroom dialogue is an atmosphere of trust.
Types of Dialogue

Question and Answer (Q and A)
Q and A sessions are undoubtedly the most common way in which we expect to create dialogue in the classroom. Instructors can invite students to ask questions at any time during the lecture or set aside a specific time for questions. The choice to allow students to interrupt during lectures, however, will help in building an active learning environment because students can engage with the instructor throughout the lecture. It is also important to remember that the instructor can ask questions of the students too.

Think / Pair / Share
Think / pair / share is a technique that allows students to interact with a peer to work out a problem or question that the instructor has assigned. Students are asked to work with a partner in order that the students can actively work through problems. Think / pair / share works in large classroom settings because students can simply turn to their neighbour to begin this exercise. However, large classes also have their drawbacks because it is often difficult to ensure that students are actually discussing the problem and not last night’s party.

Small Group Discussions
Small group discussions also work to create interaction between peers. Again, this may be an opportunity to get students to work through a single problem or for the instructor to design different problems for each group. The instructor may have each group share their findings with the whole class at the end of the discussion.

Informal Debates
Informal debates may begin in a classroom quite unexpectedly. They should be encouraged and the instructor should take the time to discuss the debate, outlining the different positions including flaws in reasoning, incorrect assumptions or facts. Make sure the students understand that free flowing debate is not tangential to lecture material. Some students assume that the only —voice that matters is that of the instructor. Take the time to point out how students may have used ideas / concepts from the course to argue a point.

Formal Debates
Formal debates are a good tool to get students engaged in both careful research and presentation techniques. The competitive nature of debate can often spark student interest. The instructor needs to set out the debate rules, to expect that research is done beforehand preferably demonstrated through an assignment given to the instructor before the debate. One technique for ensuring that students take the debate seriously is to ask that students dress appropriately on debate day.
Presentations

Individual and group presentations are good tools to teach the important skill of oral communication. For some students presentations are a joy; for others presentations are wrought with anxiety and fear. There are two vital parts of a presentation, first there must be clear, well researched content and second, they must be organized and clear. It is important to help students understand that presentations cannot be all —bells and whistles without substance. Instructors may want to ask the students to design the grading rubric for the presentations. Students are likely to put the emphasis on the content when they are asked —what makes a good presentationl. A presentation may have lots of bells of whistles but if the content is lost or unclear the audience will feel that they have not learned anything.

Oral examinations

Oral examinations can be a very effective way of determining whether or not the students can articulate ideas they have learned in the course. It becomes very clear that a student has done the course readings when you are having a one-on-one discussion with them about the course. When the exam is designed as an open ended interview session with a number of critical questions along the way, the instructor can often gauge what aspects of the course had the most impact on the student. Two notes of caution: first, it is necessary to have a grading rubric template that is completed at the end of each exam otherwise it is very difficult to remember individual student responses; second, it is necessary to mix up the questions so that students do not share the exam questions. This also means that the instructor has to be very clear about what the students should be getting out of the course (i.e. what is examinable) so that there is no basis for students to say that they got —hard questions whereas others got —easy ones.


Should you mark class participation?

It is tempting to include a class participation mark as a means of encouraging dialogue. There are two problems with this that merit serious consideration: first, can you and will you evaluate participation fairly, and, second, does a mark (i.e. a threat) promote the kind of active engagement you are seeking? Students often pay more attention to how you mark them than to the course content, so if you are marking class participation —in your head - or as a subjective impression of who contributes, they will resent it and even suspect you of favoritism. Consequently, if you wish to mark class participation, you need to have an explicit rubric (e.g. 1
point for each question asked in class, 2 points for each correct answer, etc), and to have clear written records of who did what in each class. In other words, you will be spending a significant amount of class time noting who is talking and assigning marks to it.

The second point is perhaps even more important: what kind of classroom atmosphere do you want to promote? Do you want an engaged community of learners who are not afraid to contribute and who are thinking about the course material and what is interesting about it? It is difficult to achieve this when students feel coerced into something that they are not comfortable doing. They may be distracted by the pressure and the tension, and so actually become less engaged with the material. And, of course, the students who are really uncomfortable will not participate anyway, and will therefore be penalized to no effect.

**Encouraging Student Participation: Why It Pays to Sweat the Small Stuff**

A recent classroom observation reminded me that student participation can be encouraged and supported by attention to small but important presentational details. In this article I have highlighted these details in the form of questions, and I hope that you’ll use them to reflect on the behaviors you’re using when seeking, listening, and responding to student contributions.

**How often do you ask a question and when do you ask it?** How often does depend on the teacher but there’s evidence from more than one study that a lot of us over estimate how often we ask questions. How often should you seek student contributions? More than you do? Do you ask after you’ve covered a chunk of content and are thinking about how much you still have to get through? Do you ask at the end of the period when a lot of students are hoping nobody says anything so they can get out a couple of minutes early?

**How long do you wait?** How much time passes after you’ve solicited input before you move on or offer some verbal follow up? There’s research here too, and the findings are pretty consistent. Most faculty wait somewhere between two and three seconds before they do something else—ask the question again, call on somebody, rephrase the question, answer the question themselves, or decide nobody has anything to say and move on. When asked, most faculty claim that they wait 10 to 12 seconds. Time passes slowly when you’ve asked a question and there’s no sign of a response—it’s an awkward, uncomfortable time for the teacher and the students. But waiting longer has its rewards.