

## Small Changes can Make a Big Difference

### Engage your students with research-based teaching practices

Teaching Practices	Practices to Avoid
<p><b>A. Build Rapport. Connecting with students promotes their learning</b></p> <ol style="list-style-type: none"> <li>1) <b>Start class on time</b> – sending the message that you expect them to be on time</li> <li>2) Greet students when they come in. <b>Welcome students to your class</b> and make it clear that you are looking forward to working with them.</li> <li>3) <b>Personalize the learning experience:</b> identify what students know about the course content and prior experiences in the discipline you are teaching &amp; find out who they are (ask them a series of questions about their majors, goals, and backgrounds (perhaps use a survey)).</li> <li>4) <b>Connect with your students:</b> get to know your students by name, talk about your research or your passion for the discipline (maybe include a brief introductory discussion within the Catcourse).</li> <li>5) Tell students <b>you think they can all succeed</b> if they put in the effort (fine to say the course is challenging as long as you also express that it is interesting/ worthwhile and do-able with appropriate effort). It is also important to give students the sense that you would like all of them to succeed.</li> <li>6) When providing students with feedback, focus on the idea, the thought, not the person.</li> </ol>	<ul style="list-style-type: none"> <li>• Lack of preparation and/or disorganization will result in a loss of precious instructional time.</li> <li>• Don't tell students you expect some to fail.</li> <li>• Don't embarrass students or make feedback personal.</li> </ul>
<p><b>B. Establish Expectations. Highlight the importance of the syllabus</b></p> <ol style="list-style-type: none"> <li>1) <b>Describe overarching (course-level) learning goals;</b> the big picture view emphasizing that you want them to learn and what your role is in supporting their learning.</li> <li>2) <b>Explain how the course will be conducted,</b> what will happen in the class, your expectations for out-of-class work, and give an overview of the schedule and marking scheme. Describe (generally) how to succeed in your course. Express that you feel they can succeed if they put in the effort. Give advice on how to study for the course: time management, study strategies, and resources if they need help. (A.5)</li> <li>3) <b>Give a general description of how assessments are used</b> for both feedback and marks, leaving the details to be read on the course website or syllabus.</li> <li>4) <b>Discuss academic conduct</b> rather than academic misconduct in context throughout course (e.g. talk about ways to avoid plagiarism when you are giving a writing assignment)</li> </ol>	<ul style="list-style-type: none"> <li>• Don't go into all the details during first class; give links to more details on the course if the syllabus is posted online. Could give an assignment involving reading these.</li> <li>• Don't emphasize rules and penalties on the first day (sends message of distrust).</li> </ul>
<p><b>C. Open and close your class sessions well</b></p> <p><b>Open class by capturing the attention of our students and activating their emotions.</b> First 5 mins of the class period ...</p> <ol style="list-style-type: none"> <li>1) <b>Infuse student learning with purpose.</b> Create a need to know and engage (motivation). Focus on key concepts that you want students to take away (outcomes) from the class session. What is it that students will be able to do at the end of the session? Why is this important to know? Write it on the board and revisit them at the end of the session. (B.1)</li> </ol>	

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<p>2) Use theories of <b>prediction or pretesting</b> to create an opening-day activity that will <u>activate the prior knowledge</u> of your students and prepare them for learning.</p> <ul style="list-style-type: none"> <li>• <b>Retrieval practice:</b> ask students to answer some questions, either orally or in writing, about the material you covered in the last class or about the reading they completed for homework. <u>Pause for a few moments</u> to allow everyone to engage in the retrieval practice, and then call on who has an answer at the ready.</li> <li>• <b>Prediction:</b> Prepare students for the day's content by asking them to speculate or make a prediction about a problem you will be presenting in your opening mini lecture. <u>Start with a picture, a story, a question rather than an answer.</u> Open the class with a question, one that the class period will help the students answer: "The material I want you to learn is actually the answer to this question..." Prediction plays a role in the scientific method – in the form of the scientific method. Prediction both aids retention and comprehension. Close the loop on every prediction your students make by providing feedback as immediately as possible.</li> </ul> <p>3) Get to class 5 mins early and <b>make an effort to engage in some informal conversation with the class</b> or with a student who has not spoken in class this semester. Make an effort to speak to each student individually at least once. (A.2)</p> <p>4) <b>Be deliberate about your use of stories.</b> Take your best story and open with it to pique the interest of your students in the material to come in that class period. Tell great stories about: 1) how certain key discoveries were made in your discipline; 2) the famous people who have been major thinkers in your field; 3) experiences you have had that connect to your course topics; 4) about things that you encounter in your daily readings or in the news or in movies or TV shows you love. At the end of the class, finish the story.</p>	<ul style="list-style-type: none"> <li>• Don't single out students when asking questions.</li> <li>• Avoid answering your own questions.</li> <li>• Instead of walking into class and providing an overview of what happened in the last class period, ask your students to do it.</li> </ul>
<p><b>D. Engage students during class. Mix classroom learning techniques.</b></p> <p>1. <b>Cycle back to the material they have learned to take advantage of learning power of spacing and interleaving.</b></p> <ul style="list-style-type: none"> <li>• <u>Spacing:</u> spacing out learning sessions over time (aka: distributed practice).</li> <li>• <u>Interleaving:</u> mixing up your practice of skills you are seeking to develop. The increased effort to retrieve the learning after a little forgetting has the effect of retriggering consolidation, further strengthening memory. <b>Chunk</b> large amounts of information into manageable pieces; intersperse with application.</li> <li>• <u>Self-explanation:</u> learners benefit from explaining out loud (to themselves or others) what they are doing during the completion of a learning task. Elicit <b>self-explanations</b> from students when they are engaged in practicing the skills you will test them on. (C.2)</li> </ul> <p>2. <b>Share strategies</b> on how students will succeed in this class. (B.2 &amp; F)</p>	<ul style="list-style-type: none"> <li>• Don't talk the entire time.</li> <li>• When we engage in massed learning exercises, focusing on set of content repeatedly, we never have access the learned material from the deeper recesses of our long-term memory. This method proves less effective for long term retention.</li> <li>• </li> </ul>

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<p>3. <b>Read and critique student work.</b> Give feedback to students to ensure that it promotes a <u>growth mind-set</u>. Students become more motivated to work a little harder when they see the instructors are paying attention to their work. It spurs a motivational boost.</p> <ul style="list-style-type: none"> <li>• Growth mind-set believes that intelligence is malleable and can improve with hard work and effort. The praise we give to learners might impact their attitudes toward learning tasks or toward their enjoyment of those tasks. <b>Effort praise</b> encourages the student to think that working a little harder would make a difference in their performance on the math problems.</li> <li>• It is essential to <b>give students lot of opportunities to practice</b> whatever skills they will need in order to perform well on your assessments, and we can see that such opportunities can promote the growth mind-set by allowing students plenty of chance to try and fail and improve. (C.2)</li> </ul> <p>4. <b>Invoke purpose:</b> Students need regular invocations of the larger purpose of the course to create a climate that fosters and rewards deep, intrinsic motivation. (C.1)</p> <p>5. <b>Share your enthusiasm:</b> Demonstrate to them that you care about the material. Instructor's enthusiasm plays in inspiring students to learn. "Start the learning process by striking the match"</p> <p>6. <b>Make learning social:</b> Give students the opportunity to learn together, to learn from each other, and to learn with you.</p>	<ul style="list-style-type: none"> <li>• Don't assume students will make the connections within and between concepts (neuropathway development).</li> <li>• If you don't care deeply about the course material, don't expect your students to care about it either. But they won't know that you care deeply about it unless you are willing to show that to them.</li> </ul>
<p><b>E. Focus on teaching improvement</b></p> <p>What helps learning in your class? Collect the students' perspective on their learning by asking them what's working and what could use some adjustment to help their learning. Also, make an effort to measure the effects of the changes that you implement, so you can understand how to improve your practices or when to abandon them if they are not working. You can use <b>Classroom Assessment Techniques (CAT)</b>, <b>quick midterm surveys and end-of-course evaluations for measurement purposes</b>. Try to get feedback from different people – start with students in your classes and peers in your program.</p>	<ul style="list-style-type: none"> <li>• Don't wonder whether your practices are helping students learn. Assess their understanding with clickers or minute paper.</li> </ul>
<p><b>F. Challenge student misconceptions about learning</b></p> <p>We should share what we know about learning with students to improve their performance. For instance, good study habits: spacing, interleaving, self-explanation, and self-quizzing.</p> <p>One of the major challenges students face in the transition to college is changing their counterproductive study skills and metacognitive sense developed over many years of secondary education. The transition to college is not just about learning new study strategies, but also about overcoming old ones.</p>	<p>Flawed beliefs about learning:</p> <ul style="list-style-type: none"> <li>• Being good at a subject is a matter of inborn talent rather than hard work.</li> <li>• Learning is fast.</li> <li>• Knowledge is composed of independent facts.</li> <li>• I'm good at multi-tasking, especially during class time or studying.</li> </ul>

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#### **References:**

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