

# ENGAGING the College Chemistry Classroom

What ENGAGING item(s) apply to each classroom for each item (day 1, lectures, reading/quiz/questions, exam review)? Which classroom is "better"?

<b>E</b>	<b>ENTICE EFFORT AND BUILD COMMUNITY</b> so that every opportunity to motivate, encourage, and support students is taken.
<b>N</b>	Students must develop their own understanding of important ideas and <b>NEGOTIATE MEANING</b> .
<b>G</b>	Students <b>GROUP FOR COLLABORATION</b> , showing respect for everyone.
<b>A</b>	<b>ACTIVE LEARNING</b> is seen as the result of thinking. Learning is "doing". <b>AUTHENTIC ASSESSMENT</b> uses "Tests" that provide evidence of understanding in new realistic situations.
<b>G</b>	<b>GRAPHIC ORGANIZERS</b> are powerful visual tools used to examine information, record thinking, and document relationships.
<b>I</b>	<b>INTELLIGENCE INTERVENTIONS</b> enhance students' efforts toward learning through the use of multiple intelligences.
<b>N</b>	<b>NOTE MAKING</b> expects students to construct and record their own ideas and keep them for further analysis.
<b>G</b>	<b>GRADE WISELY</b> to get the maximum number of students to try their best, and to lead to a sense of community and fairness.

<b>Classroom A</b>	<b>Classroom B</b>
<p><b>On day 1</b>, all students fill out index card questionnaires and share facts about themselves as a class. A half-lecture on Analytical Chemistry methods follows. Students are invited to open-door office hours and to always ask questions.</p>	<p><b>On day 1</b>, students discover similarities, differences, and mutual respect by a Venn diagram activity; learn the value of "reading to teach" through the Gronk exercise; share index card questionnaires, and discuss note-making approaches. At the end of class, students email questions to the instructor, which are answered through a Q&amp;A email. The next class, discussion groups form to ask many questions about a common object, which the instructor links to key Analytical Chemistry concepts.</p>
<p>Structured <b>lectures</b> are given daily, and the instructor shows worked example problems. Every few days, students partner up to solve their own practice problems as the instructor circulates. A mix of online and book homework is issued.</p>	<p><b>Lecture</b> often starts with all-class brainstorming to review students' current knowledge of the topic. During lecture presentations, the instructor often asks for students to identify key concepts. Lecture is intermingled with group work, with the instructor circulating. Every other Friday, a discussion day probes connections to the real world; challenges students with more difficult problems; and employs student teach-learn strategies. An interactive online homework program is used.</p>
<p>Students are expected to <b>read</b> before class and participate through ungraded clicker questions, which the students enjoy. One formal paper <b>quiz</b> is given between each test (4/term). <b>Student questions</b> outside of class are handled individually.</p>	<p>About once a week, at the start of a new topic, students are given <b>reading quizzes</b> via clickers (15/term). Prior to the quiz, students compare notes with their neighbors and they can use their notes on the quiz. Errors in quiz responses are discussed during the quiz. Ungraded clicker questions follow during lecture. Relevant <b>student questions</b> outside of class are forwarded to everyone through Q&amp;A emails.</p>
<p>For <b>test review</b>, students identify difficult topics and the professor works example problems in these areas and/or works the room as students attack more practice.</p>	<p>For <b>test review</b>, discussion groups are assigned to chapters or topics and outline important points on the white boards. The class regroups to go over the boards and discuss difficult and/or important concepts. If time, practice problems ensue. Students are invited to office hours for more help.</p>