

Table 6.1 Definitions and Common Myths about Scientific Teaching

Topic	Definition	Common Myths
Scientific Teaching	Teaching science in a way that represents the true nature of science and approaches teaching with the rigor of scientific research.	<p>Scientific teaching requires extensive understanding of educational literature and assessment techniques.</p> <p>Undergraduate students are not sufficiently sophisticated to understand scientific inquiry; inquiry is learned in graduate school.</p> <p>If I'm not lecturing, then I'm not teaching.</p>
Active Learning	The process in which students are actively engaged in learning.	<p>Active learning takes too much time and occurs at the expense of learning content. I have to cover the content for the next course.</p> <p>Content must be covered at all costs. Other goals are secondary or irrelevant.</p> <p>As long as students are busy, they're learning.</p> <p>Students' minds are empty vessels or blank slates.</p> <p>If students are not taking notes, then they are not learning.</p>
Assessment	Measuring progress toward and achievement of the learning goals.	<p>The point of assessment is not to help students learn—the point is to measure what they have learned.</p> <p>I know I'm successful; the students who return say they remember my teaching and how it affected them.</p> <p>I don't have the background in assessment needed to be a scientific teacher.</p>