



Biology Seminar

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Are We All on the Same Team? Aligning Students and Instructors by Aligning Learning and Assessment

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For many years, my love of teaching biology was tempered by the discomfort of administering high-stakes exams. I strove to go beyond multiple-choice trivia contests by assessing students' application of their knowledge to novel problems; however, to ensure that these problems were novel, I kept them well-hidden until the exams. This secrecy led to much student anxiety and frustration, as well as my own concerns that my assessment methods might be inequitable. Here I will discuss how a backward design process led to the creation of the Test Question Template (TQT) framework. By explicitly linking learning objectives (LOs) to specific, realistic examples of how those LOs could be assessed, TQTs improve the triadic alignment of learning objectives, learning activities, and summative assessments. Data from several years of exam performances and student surveys suggest that TQTs enable rigorous yet humane assessment of students' ability to apply their knowledge. TQTs also synergize with the equitable grading practice of offering exam retakes, thus helping students use feedback to improve their performance. While the TQT framework grew out of my classroom experiences teaching anatomy and physiology, it is applicable to any course that emphasizes high-stakes exams. Current TQT-related projects represent excellent opportunities for undergraduate students to contribute to authentic educational research.