

17.

A Big Question Approach to Introductory Biology (BIO111)

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In Fall 2017, I abandoned the traditional, chapter-by-chapter approach to BIO111: Molecules, Cells, and Animal System in favor of one that connected material around three big questions. The questions were as follows: “Why do we eat?”, “How do genes work?”, and “How are genes passed on?” The switch transformed the course from “here’s a lot of seemingly unrelated information” to “let’s figure out how topics work together to answer important questions.” I was able to be intentional in helping students make connections and see the relevancy of each topic covered in the course. Students were active participants as they contributed to the structure of how and when we covered particular material. Through formal and informal assessments, students demonstrated greater mastery of subjects and interest in the material. The challenge of this approach was to keep everyone on board as we synthesized material in various, nonconsecutive chapters of the textbook. The benefits of increased understanding of individual biological topics and how they connect, greater interest in the material by seeing its relevance, and more enthusiasm in class far outweighed the cost of our unorthodox use of the required textbook. On a personal level, the new approach reinvigorated my interest of the course. I had to challenge my own assumptions of what topics were important to cover and why. I think courses in other disciplines, especially broad introductory courses, could also benefit from a big question or thematic approach.

Learning Outcome(s): 1. Learn how a new teaching approach can increase student learning outcomes.
2. Learn how a new teaching approach can reinvigorate a professor in a class they have taught a million times.