

Brett W. Merritt

A Matter of Concern: Marginalizing the Voice of Reason(ing) in College Science Teaching

Abstract

There is a long history of philosophical debate about the degree to which the discipline of science itself is a discursive/linguistic construct, but regardless, many university science courses construct science de facto for their students discursively/linguistically. Especially in large-enrollment courses, students are regularly offered science content through lectures where the course instructor bears most of the discursive responsibility. For teacher educators, the implications of this linguistic construction are significant: the lecture constitutes a major site—especially for prospective science teachers attending these courses as students—for the construction of science, as a subject matter, and what it might mean to reason scientifically. If teacher educators desire a clearer understanding of how science and scientific reasoning have been constructed for their prospective science teachers, it follows that they should pay closer attention to the instructional discourse occurring in undergraduate courses. In this paper, I use the example of a four-day unit on photosynthesis in an undergraduate biology course to illustrate how two co-instructor's discourse can relegate important, disciplinary-specific organizing concepts to the instructional (i.e., linguistic) periphery of the course. In residence at the periphery, these concepts are rendered unavailable to students in their repeated attempts to understand key ideas in biology.