GREAT TEACHING

Our “Dysfunctional Illusions of Rigor”

- “There were no deficits that were not made irrelevant by appropriate pedagogy.” (Nelson, 2010, p. 178)
- “Effort spent on improving lectures was a waste of time in comparison with that spent on transforming the pedagogy.” (Nelson, 2010, p. 179)
- “We need a lot more of the good kind of grade inflation.” (Nelson, 2010, p. 180)

Indiana University Professor Emeritus of Biology Dr. Craig Nelson had his own transformative learning experience. It was about his teaching. The above statements were made after his transformation.

In his 2010 article about dysfunctional illusions of rigor, Nelson does two things. He offers up compelling and replicated evidence that the key variable in students achieving at high levels of rigor is instructional strategy, not the level of difficulty of the material or supposed deficits in students; and he shares his personal journey of transformation as a teacher who went from being solidly in the camp of “true believers” that academic rigor means covering more material and weeding out weak students to being a faculty member who seeks changes in instructional strategy as the means to help more students achieve at higher levels of rigor.

His description of his journey includes words like, “appallingly” (adjective attached to his remorse that he hadn’t decided what he most wanted students to achieve when he assigned a chapter, p. 185), and “shocked” (to discover that traditional methods of instruction weren’t inherently unbiased and equally fair to a range of diverse students, p. 183). But Nelson also enumerates the benefits of his new perspective.

Click here to view entire article

Nelson’s transformative journey has parallels with that of other professors in that he acted courageously to prove to himself that his prior assumptions about teaching and learning were erroneous. In this regard, he’s like Harvard physics professor Dr. Eric Mazur, whose before-transformation perspective meant he believed that his lecture-based teaching produced students who understood basic physics concepts. Mazur courageously administered a test of conceptual understanding to see if he were correct in his belief (Mazur, 1997).

He was not, and Mazur, like Nelson, was faced with what Mezirow (1995) calls a “disorienting dilemma.” Mezirow characterizes this as a triggering event for the change of perspective which IS transformative learning. Both Nelson and Mazur illustrated great teaching practice when they adjusted their teaching strategies and beliefs based on the new information that caused their respective disorienting dilemmas.

In both cases, it was solid proof that convinced these professors that their previous
assumptions were incorrect. These two gentlemen happen to be faculty in the sciences, and to ignore the research—methodologically sound, statistically significant, and peer-reviewed—would have meant ignoring the fundamental precepts upon which their conceptions of their disciplines had been built.

It is this aspect of the Nelson and Mazur examples that give cause for a pause: If there is proof that active learning strategies result in better student achievement, that changing pedagogy has a bigger impact on student learning than trying to be “more rigorous” (and thereby, paradoxically, actually achieving the sought-for higher rigor), and that there are many faculty in higher education who continue to prove the efficacy of active learning strategies (e.g. Hake [1998] and Crouch & Mazur [1991]) . . . then how do we resolve the dilemma these facts create for us if we currently function as a “transmission model” educator (i.e., “transmitting” knowledge by telling instead of trying to produce learning)?

It is a good question.

This is not to say there’s never a place for lecture. Mazur lectures at times (though never for more than about ten minutes at any single stretch). This is not to say that every article which proposes a new teaching technique should be given credence. But if the preponderance of evidence is consistent, and if that evidence argues against the instructional strategies that an instructor uses, there is clearly the potential for a disorienting dilemma.

Great teachers like Nelson and Mazur act after changing their perspectives to resolve their disorienting dilemmas. In their cases, they sought out resources for how to change teaching practice to be more effective. Nelson (2010) comments on the shift from covering content to working backwards from desired outcomes and on the wide availability of multiple resources about how to incorporate active learning strategies:

Traditionally, we have chosen the most important content and covered it, hoping that the outcomes such as critical thinking would automatically result from learning the content. An alternative approach starts by selecting the outcomes that one most wishes to foster and then choosing the pedagogies, and finally the content that seems most likely to achieve these outcomes. The American Association of Colleges and Universities (www.aacu.org) has strongly advocated and effectively illustrated such intentional approaches to effective education. (p. 185)

Welcome disorienting dilemmas. They are exciting, and the soul-searching they prompt is at the heart of transformative learning.


