

Preface

I don't recall exactly when I read Mary Ellen Weimer's book *Learner-Centered Teaching*; I may have still been in graduate school or my first post-Ph.D. year as a visiting professor. However, I'm certain that reading this book was a seminal moment that will forever influence my teaching philosophy. Weimer's premise resonated with me: "learner-centered teaching ... represents an entirely new way of thinking about teaching and learning tasks and responsibilities. It is transformational" (2002, p. xxi). As a young teacher, her arguments were revolutionary for me as I hadn't heard them before but found them to be immediately compelling and convincing. Now that I've had some experience putting the approach into practice, I can confidently echo her statement that learner-centered teaching is transformational. Overall, it is so dynamic and interactive that it can make lecturing feel dull and agonizing. Learner-centered thinking opens a door to more pedagogical creativity (as reflected by many of the activities in this book) that can lead to higher levels of student engagement, classroom energy, and teaching satisfaction. Quite simply, learner-centered teaching is more fun. Because of Weimer's book, my central career goal is to continually improve my learner-centered teaching practices.

Although I was a learner-centered convert in the first couple years of my current professor position, it took me a while longer to develop a mature and fully realized learner-centered philosophy. I quickly realized that I needed to adjust lectures to give students more responsibility for their own learning. In particular I remember asking one student why he wasn't taking notes during the lecture. He replied, very honestly, that he didn't have to because all the needed text was on the presentation slides which could be downloaded from the online course management system. This set off the nascent learner-centered teaching alarms in my head. I realized I was doing too much of the thinking for the students. As a result, I started to remove text from slides and insert blank spaces that I would fill in orally so at least they had to write the information down, or even better, I would help students contribute the missing information via Socratic dialogue.

Over time, I realized that such simple changes were not enough and that, to become more learner centered, I needed to reduce the classroom time spent by me talking about information on the slides. This commitment was especially

strengthened by another classroom moment that I vividly remember, from three and four years ago. While lecturing, my mind was divided in two: one part was enthusiastically talking about the topic of the day in an attempt to impart knowledge on my students. Simultaneously, another part was observing the students more closely than usual. A few of the studious ones were paying attention and taking notes. But as my eyes scanned the room, I saw too many that were not mentally “there.” A few were sleeping or clearly trying not to; others were daydreaming or just zoned out. Of course, the part of my mind that saw this immediately began to fret: *Why don't the students care? Why are they so irresponsible? Don't they want to learn?* Although this strong tendency to blame the students is common, with further reflection, it's easy to see that it's not wholly their fault. Who among us has not nodded off at inappropriate times, especially when sitting, listening passively, only to then suddenly wake up wondering when your nap began? I certainly have, including, for example, more times than I'd like to admit in my invertebrate biology class (at 8 AM—part of the problem for a night-owl like me). (Despite this, I went on to study invertebrate ecology in graduate school.) Surely we've all seen colleagues drift off to sleep during professional conference talks, departmental seminars, or committee meetings. It's an inevitable result of sitting passively without the responsibility for having to accomplish something in the moment—a biological outcome of a stressed and tired body seeking some shut-eye whenever possible.

Although perhaps inevitable and surely undesirable, seeing disengaged students during a lecture can be a dreaded, demoralizing—even enraging—classroom moment for teachers. In my particular instance described above, while one part of my mind was trying to concentrate on lecturing coherently, the other was asking, why are you doing this? What *is* the point? Aren't you partially responsible for the students' disengagement and opportunistic slumber? What should you be doing to reduce the probability of this happening? I left that class with a stronger commitment than ever to creating more active and engaging class meetings and reducing, as much as possible, the amount of time I spend talking at students in lecture mode. Yes, I still lecture; it can be a useful, if not necessary, tool in some cases, if just to vary the course's day-to-day flow. But one's teaching methods should be more diversified and engaging than lectures alone. With critical observations and reflections, it is apparent that lecturing sometimes—perhaps often—just doesn't work to promote excellent student engagement and learning, which should always be a teacher's primary goal.

One way to test the validity of this conclusion is to think about the most memorable learning and classroom moments from one's own time as a student. For me, I remember Dr. Hils asking volunteers (including me) to stand in the front of the classroom and create a human model of a cell membrane. He also had us create our own 3-D “life spirals” to illustrate the life history strategies of plants. In my general ecology course with Dr. Huehner, we sampled, identified, and counted beans to calculate biodiversity indices. In marine biology, he turned over one class meeting to each student so that we could be teacher-of-the-day (a smart approach that I use in some of my classes because having to teach someone else creates ideal motivation to spur one's own learning!). In addition to strengthening my knowledge about

coral reefs, this experience helped solidify my desire to become an educator. Some of my other most enjoyable college experiences were in Professor Bourassa's photography classes; she made every studio critique session highly learner centered which forced us to refine our critical artistic thinking and communication skills. The common thread connecting these and many other of my classroom memories is that students were the center of the action—the ones doing the work. I suspect that readers can identify similar unique learning experiences from their own lives.

Learning experiences is a nice phrase to describe those memorable, participatory, probably enjoyable moments when students are awake, engaged, thinking critically, and doing something other than taking notes. What methods can teachers use to create more of these experiences? Alongside traditional approaches like laboratory experiments, research papers, and other projects, it seems that the number and diversity of innovative pedagogical tips and techniques has exploded in recent years. The creation of new terms and acronyms is hard to keep up with: PLTL, flipped classrooms, PBL, the 5 E's model, service learning, and POGIL, among others. In my mind, all of these fall into the umbrella category of learner-centered teaching. Although they are great general approaches that guide the creation of learning experiences, I have been frustrated in my teaching by the relative lack of concrete and immediately usable materials needed to implement learner-centered teaching in traditional classes that meet for 50–120 min in lecture-style classrooms (and specifically for the undergraduate level—many more resources exist for K-12 education). Throughout my career, I have developed many learner-centered materials and activities for such contexts but have found that few publishing outlets (that are of variable quality) exist for such college-level educational materials. Yet, I know that other professors have developed their own teaching activities and would also appreciate having other well-developed, easily-adoptable resources.

These two concerns—limited availability of teaching resources and publication outlets—are what prompted me to pursue publication of this book. My motivation was, in part, selfish: I wanted more teaching ideas for my own classes. However, the more important and valuable outcome of this book is sharing the great teaching activities of the contributing authors with the whole community who will surely benefit from their hard work and creativity. For those who already consider themselves to be learner-centered teachers, the resources will provide a wealth of new materials to use while also inspiring ideas for new activities. For those who are just beginning their teaching careers or haven't used many or any learner-centered teaching methods, I hope that the introductory chapter and collection of resources will motivate and enable them to become learner centered in their own educational philosophies and practices. No matter your current level and duration of learner-centered expertise and experience, I think it's fair to say that we can all strive to become better designers of valuable learning experiences for our students.

To be sure, becoming more learner centered requires significant time, patience, and commitment. I've experienced much self-doubt and anxiety along my journey, catalyzed by students who remained unengaged, still fail to do well, and complain about the "unfair" workloads on course evaluations. (Of course, some students have commented how much they enjoy and benefit from my teaching methods—but as

many will empathize with, it's the negative comments that one tends to brood over while lying in bed!) However, on balance I feel confident that learner-centered pedagogy is simply the right way to approach contemporary education—a view which is supported by accumulating scientific evidence (as reviewed in Chap. 1). This is particularly true for environmental and sustainability studies which are among the most important areas for students to learn about given the world's many pressing socio-environmental challenges. The higher education community needs more published learning activities about these issues and many others. I hope this volume will be an inspiration and model for the development and dissemination of others. More immediately and personally, I hope the resources in this book help you accomplish your own learner-centered teaching goals.

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