Teaching Reflection

Laura M. Grabowski

August 21, 2019

2018-2019 presented some interesting teaching challenges and opportunities. My teaching experiences were impacted by several important developments outside the classroom, and so serve as necessary context: my stepping into the department chair role in July 2019, the production of the department self-study document for accreditation throughout the year, and a personal event in December that I will share later in this discussion. The first two developments required me to rebalance my time usage as I moved into new responsibilities.

For Fall 2018, my goal was to improve my course materials to address what I perceived as weaknesses in previous iterations of the courses. At the center of this effort was a large number of new or revised assignments. I tried out a number of new assignments for CIS 203 Computer Science II and an entirely new set of assignments for CIS 303 Analysis of Algorithms. In CIS 203, the changes were mostly incremental improvements through which I tried to address previous issues/difficulties students had with assignments, or "holes" in skills that I thought needed to be addressed.

For CIS 303, I used an entirely new setup for assignments that explicitly ties theory in one assignment to practice in the next assignment, to provide a more explicit applied learning component to the course and to deepen the context for all the course material. I also provided students with experience in setting up, running, and analyzing empirical computational experiments. That sort of experimental experience is generally not emphasized in our courses, although the skills are important ones that students often need to make use of in the workplace. CIS 303 is a very challenging course to teach: it requires a mix of math skills (such as proofs), high-level algorithm analysis, advanced programming skills, and empirical analysis. The course needs to cover quite a lot of territory. Consequently, it is also quite challenging for students.

I also reworked some of the assignments for CIS 380 Professional Practice, including the addition of an individual project that required some simple experiments and analysis. I tried out some new topics for the required talks in the course, to give students a more diverse experience with presentation types that occur in the computer science profession. The most notable of those new topics was a live software demonstration, a presentation skill that is often expected of computer scientists but seldom practiced in the classroom.

The end of fall semester brought a personal event that would impact both the end of that semester and the entire spring semester. My father, who suffered from Parkinson's Disease, unexpectedly took a turn for the worse at the beginning of December, entered hospice care, and died shortly thereafter. I left to travel to my parents' in the middle of the last week of fall classes and was gone through the end of the semester. My Computer Science colleagues jumped in to cover my classes and final exams, and our secretary scanned all those exams and sent them to me for grading. As might be expected, this event made my spring semester quite difficult indeed, and undoubtedly impacted my classroom performance. My student evaluations remained generally good, so I am pleased that the students seemed to feel fairly positive about the classes.

Improvements in Spring 2019 were generally focused once again on improving course materials. The improvements were primarily about fine-tuning, along with a few rearrangements of topics in CIS 203 and 303 to (I hoped) make for a more natural progression of ideas. I also taught CIS 405 Software Engineering, one of my favorite courses to instruct. In this course, the emphasis is on the students learning real-world software engineering methodology and tools in the context of a realistic team-based software project. We do a different software project each year. This year, the students worked on building an "autograder" for computer science assignments. This was a particularly complex project and was quite demanding. I was very pleased with the progress the students made on their projects, and they seemed pretty excited with their accomplishments at their final presentations. The class was also challenging for me because it had a

high enrollment (for that particular course) that required me to oversee four project teams instead of the more typical three teams. That may sound like a small difference, but in practice it is not. The course relies on frequent formative assessments and various types of evaluations of teams, artifacts, and individuals.

If asked to name one thing that I would like to improve in my teaching in the coming year, I would say, "patience." It's not that I lose my temper with students, or anything that extreme. I think that I have difficulty at times in looking past the pressure to cover all the material in a course (not a small pressure when teaching core courses upon which other courses rely) to see what is behind a student's question or missed homework. It requires patience to invest the time to puzzle those things out. I think that this could help me improve my ability to address individual students' needs in a class and so enhance every student's chances of success.