

Special issue: Innovative Teaching Personal Essays

Student Learning Assistants and Giving Up “Professor Power”

Sarah C. Petitto

St. Cloud State University

In 2010, during my second year of teaching, I joined a Faculty Learning Community (FLC) focused on increasing student engagement through collaborative learning that was an eclectic mix of quantitative and qualitative practitioners. Fall semester, we read resources (*Angelo & Cross, (1993); Anderson & Krathwohl, (2001); Bransford, Brown, & Cocking, (2000); Stanley & Porter, (2002); Carbone, (1998); Cooper & Robinson, (2000)*) provided to us (thank goodness as this was an overwhelming task to search on my own), completed assignments, and then planned what we were going to implement as a course redesign for spring. The FLC provided me with a safe place to explore and learn about innovative teaching techniques and allowed me to identify what was I really afraid of; my misconceptions that this couldn't be done in hard science classes, and the annihilation of my ego that “I do NOT have to say it for them to learn it!” which I've learned is a traditional professor's mentality and really is a self-efficacy failure.

I was already using clickers (*Guthrie & Carlin, (2004); Beatty, (2004); Martyn, (2007); Caldwell, (2017)*) and fill-in the blank power point lectures with examples (*Heward, (1996); Konrad, Joseph, & Eveleigh, (2009)*), but the students were just sitting there frantically trying to write it all down. I asked myself, “Is this learning?” The questions they were asking me were also superficial. They were not getting the deeper connections to see how all these individual parts constituted the whole, which is a huge problem in General Chemistry as every lecture feels like

it's coming out of left field. I wanted the students to *do* and *think* about the concepts and work-out problems that were *not* plug-n-chug, and to facilitate this is I needed Learning Assistants (LAs), one LA per section of students (1:24 ratio) (Van Dusen, Turner, Langdon, & Otero, (2016); Crouch & Mazur, (2001)). I was fortunate enough to have a colleague, Dr. Rebecca Krystyniak, who had been using LAs in the department and already organized funding from the Dean. I put a call out to my colleagues asking for student recommendations who were successful in General Chemistry, outgoing, approachable, and communicated well who would make effective peer leaders in the classroom. I also did the same with my own former students. I have been lucky enough to find amazing students to be LAs that were as diverse in majors as my general chemistry students; chemistry education, chemistry/biochemistry, environmental science, engineering, biology, etc. My LAs mirror who I am teaching, and this is important for the students to see that they too can be successful in this class.

LAs are hired through an application and interview process, work 10 hrs/wk, and are paid the campus student rate through the Dean's budget or work study if applicable. Their weekly workload consists of three hours of both in lecture and tutoring and then one hour each for facilitating their own student work session (I am not present), grading, a weekly meeting with me and the other LAs from my class, and a weekly pedagogy seminar class. LA training comes from the latter two duties that involves reading literature, watching videos, completing the in-class activities as a group, role playing, and discussing their observations and own uncertainties. We truly work as a team with open communication, respecting each other's perspectives, and identifying what questions failed with students with edits. I also observe how the LAs themselves change as students and start applying what they were modeling into their own studies that ultimately makes them even stronger students.

I used my FLC to flush out my course redesign that was still extremely structured as I was not ready or able to completely relinquish “professor power.” I was able to talk through, ask questions, and most importantly acknowledge additional concerns; “What if I don’t cover enough material, the students revolt, I can’t handle work the load?” What it all kept coming back to was, “you can’t break the students, so just try it.”

Starting in the first semester, I spent huge amounts of time on student placement and classroom layout. Each LA had the same 24 students for the entire semester in a specific area of the classroom, and there was an empty row of seats between LA sections that created a new “first” row making more students literally accessible. The students were paired up, but sat in a group of four so if someone was absent no one was ever alone. Students also had assigned seats in their assigned area of the classroom that allowed for community building where the LA was the “mayor.” The LAs learned the students’ names quickly as well as their learning styles and personalities. After each unit exam, pairs and quads were remade using the same 24 students. I have since learned to let the LAs do the first attempt at the pairs given their intimate knowledge of the students. I then revise the pairs based on class performance (i.e. an A with a C student, B with a D, no shows are paired up), at least two females within the quad and females sit near other females of different quads (Dasgupta, McManus Scircle & Hunsinger, (2015); Dennehy & Dasgupta, (2017)), and the students who need to most help are placed in the most accessible seats; aisles and front rows, and the inner seats are for no shows, which invertedly frees up space allowing for easier mobility for the LAs to get around.

I used to have five or more higher level explain/show questions (Anderson & Krathwohl, (2001)) per lecture, but the students panicked and rushed to complete them all for fear of losing points at the expense of their learning, even though LAs only ever graded what the majority of the

class completed. I now have three questions that fit on one-side of the page that is part of the chapter packet that is given out and collected during each lecture and then graded by the LA before the next lecture for immediate feedback (Van Dusen, Turner, Langdon & Otero, (2016); Crouch & Mazur, (2001)).

I still use clickers, but my first attempt of having one person from the quad take the clicker quiz for the entire group failed miserably. I had labeled each student A, B, C, D and put their quiz day into the schedule. I was hoping the group work and peer pressure would ensure everyone understood the material (Bransford, Brown & Cocking, (2000); Stanley & Porter, (2002); Carbone, (1998); Cooper & Robinson, (2000)). Nightmare. In addition to the logistics to set-up, students wanted to switch days because it wasn't fair if their quiz taker didn't show up with or without a valid excuse. Never again. I now do two types of quizzes; indie quizzes that are in the schedule which are closed book, note, and neighbor and regular check-in quizzes throughout lecture that are open book, note, and neighbor (Guthrie & Carlin, (2004); Beatty, (2004); Martyn, (2007); Caldwell, (2017)).

Eight years later, I am still using LAs, clickers, and collaborative group learning. Every semester I loosen my need for control; however, the course is still extremely organized. The students never staged a coup, but there were a few mini revolts of students walking out of class on day one after hearing they were going to have to work, but they ended up in my class the next semester after failing in a traditional lecture only class! Students engaged with each other, their LA, me, and most importantly the material. I didn't become less of a professor by speaking less, in fact I became a better professor by becoming a better a teacher by not professing at them. The logistics are straight forward now, and materials are tweaked based on how the students did. I'm now focusing more on metacognition type questions (Bransford, Brown & Cocking, (2000);

Pintrich, (2002)), and my new goal is to talk less by not using lecture time telling them what they already know but to show them how much they DO know with more informal “work with your neighbor” activities. I have formative and summative data that shows this works, and most importantly the students are telling me they want this in all their classes despite having to do more work because they are learning and ultimately earning more points.

I was fortunate to have joined the FLC that provided me with the structure, materials, and support to redesign my course and my students surely benefitted from me not settling for ineffective, traditional lecturing that would have been “easier.” The time and energy I put into innovating my courses came at the expense of my “hard science” research projects that has been contentious and carved out a longer route for promotion, but I have not wavered as I know this is right by the students and is at the core of academia. I’m sure I would have ultimately come to this decision to innovate and change up my teaching especially with all the student-centered learning initiatives in my college recently. I am now an expert helping others redesign their courses and sharing my trials and tribulations. But, I also don’t think I would have continued without LAs as they are key to these successes. Students need that in-between person to feel safe, vulnerable, and be ok with failing to ultimately learn more.

Yes, I have encountered barriers from strong-willed students who just want to sit, colleagues who think this is not how university should taught, and my own exhaustion and doubts, but what keeps me going and counting my successes is just one student “getting it” that never got it before or thinks chemistry isn’t *that* bad or had a chemistry moment on their own that wasn’t part of an assignment for points. And if I need a formal accolade that this steadfast quest was the right path, I was nominated and awarded the Outstanding Teacher of the Year by the Board of Trustees for my innovative work in the classroom in spring 2018. This award along with the words

and gestures of support from my colleagues across campus and from my students show I am doing the right thing, and I am not stopping.

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