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Narrative 1: Steven Bradley

Steven Bradley is an assistant professor at a Baccalaureate College. At the time of the interview, he had been there for two years after spending a few years working as a post-doc and adjunct professor. Steven realized during graduate school that he wanted an academic position that allowed him to focus on teaching as his primary activity. In this narrative, he details the pathway to his current position which is very much in line with his expectations.

How I got here

I guess it comes down to not ever fully deciding what I wanted to do, and just sort of going with the opportunities that presented themselves. It goes all the way back to my undergrad. When I was in high school, the areas I was most interested in were astronomy and materials science, materials engineering. [My Undergraduate Institution didn't have the major I was interested in, and] although there were interesting aspects of [disciplinary] engineering, the field as a whole didn't really sell me on this is what I want to do. I had always had an eye on [continuing] on with my education and [doing] something more oriented [towards my original interests]. I ended up applying to a few different grad programs. My girlfriend at the time, now my wife, was also applying to programs in linguistics, right, so completely separate, and we ended up – the best fit where we both got accepted was at [PhD University, which is a Doctoral University: Highest Research Activity].

So, I was there, it was actually a really nice department, a very close-knit community compared to some of the other schools I visited, which was one of the reasons that drew me there. I didn't have – I wouldn't say it was a bad experience in grad school at all, like a lot of people. It was stressful at times, but I had a really good advisor, a really good understanding advisor. I did not feel pressure to be in the lab 24/7 like some of my colleagues who I noticed were, and I think he was a really good model in terms of work-life balance, especially as compared to some of the other professors I observed.

Even still, it's a balance, it's always sort of comparative. It was very good balance for R1 academia. And I – if this is the best-case scenario, I'm really not sure this is the sort of life style I want to be in. Additionally, I was coming to realize that while I was fine at doing lab work, at taking a problem and figuring out how to do it, I wasn't really good at coming up with problems

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in the first place. Which meant that I didn't feel confident in my ability to support myself through grants as my primary objective.

At the same time, I was realizing, what I really like about academia is helping people, helping students. And helping them to know the material first, but on a broader scale, helping them to know the field, to know life, to figure out what sort of career did they want. Somewhere halfway through [my doctoral studies] is when I decided, you know, I like academia, I could probably go into industry and be fine, but it's not really what I feel passionate about. But at the same time, the R1 route is definitely not for me. That's when I decided to focus on getting in somewhere where I would be able to teach, where my primary responsibility was to teaching.

As great as my advisor was, he didn't really have any advice for me, in terms of that career path. And he told me straight up, you know, "I admire, I'm very supportive, I'll do whatever I can, but I don't have that experience, I don't know very many people who have done that." So, I was on my own. I looked into, honestly what I found out at first was looking through job postings and seeing what sort of positions are there that I would fit in to, that I would be qualified for, that would hire me, etcetera.

Through a couple conferences and what not, I did end up making a couple connections at teaching based institutions, and so I started to leverage them a little bit. Just like, hey can you check out my teaching portfolio, can you give me some advice on what to look for in schools and interviews? There was a course that was offered through the school of education at [PhD University], it was basically college teaching 101. That was really helpful, although it wasn't scientific teaching, it was just teaching in general. I was in there with one other person from my department and then 5 or 6 other students from various departments across campus, including I think something like women's studies, Chinese, psychology. That was interesting to see what the – how the different disciplines approached teaching. That was really helpful. The instructor for the course, he ended up being a reference of mine for a while, he was very helpful. He was very encouraging.

I talked with my advisor and he suggested taking this course at [PhD University], so he was supportive of that. I found it very helpful and I did apply to a few positions. However, I wasn't sure - what sort of experience do these schools want you to have if you're going to be mainly teaching? So, I did apply to a few schools [as a PhD student], and then I did a year of post-doc [and taught one class as an adjunct], and then a year of half adjunct, half post-doc. The

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post-doc - basically, the funding for it ran out over the summer [after one year]. I didn't have a position yet, and, the department head at which I was an adjunct, they liked what they were getting from me, I guess, and they basically gave me as many credits as their policy would allow for a part time faculty.

Overall, I was satisfied with how that went. In the meantime, I was continuing my job search, and by the time that semester ended I had interviewed here at [Current Institution, a Baccalaureate College], and had accepted the job.

The reason I ended up selecting it is because they offered me the job. And at the time, I didn't have another interview. I think I had another phone interview, and I ended up telling them, hey I got another position. The interview, I think was pretty typical of a lot of the interviews that I went on. It was one day. I had a teaching demonstration, they let me pick the topic.

My preparations for teaching

In the spring and early summer [during my first year of my post-doc], I decided what I need to do is get more experience teaching directly. Pretty much I looked at all the schools in the [area] and looked for any that had adjunct or part-time positions that they were advertising in chemistry, physics, engineering. Just to get something. And I did get one – I got invited by [Adjunct University, a Doctoral University: Moderate Research Activity].

I started off teaching physics labs, they started me off slow. That first semester I was still doing a full-time post-doc as well, I had a lab section. I was able to carve out some time. That was really good. Looking back, I had pretty good students in that section. It wasn't full either, so I wasn't spending the entire time running around keeping everyone's experiment going and I was able to give a lot of individual feedback as well, in terms of lab reports. So that was really good. In the spring then, of 2013, I think at that point, they bumped me up to two or three sections, and at the same time, my post-doc advisor, we realized that our project funding – basically our results hadn't been interesting enough to keep the funding body interested, so we weren't going to be able to extend the year and a half's worth of funding. So, I just worked it out that I would become part-time, half-time essentially at [Post-Doc University, another Doctoral University-Highest Research Activity], and pick up a little more teaching experience at [Adjunct University].

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And so that's what I did. And it was physics labs still – I was learning a lot about teaching, really a lot about students, interacting with students, and dealing with students who were not really all that interested in being in the class. Because I had never had that experience myself. I mean, even if I didn't care about the subject matter, I still wanted to do good in the class – I still wanted to achieve as much as possible. It was a bit – I would say it was eye-opening in that sense, like hey, there are actually, it may be a minority of students who are in that boat, it depends on the class and the field and all that.

The physics lab itself was mainly taken by engineers and biologists. And it was an interesting mix, the engineers took it as freshmen – they ended up taking physics 1 in the spring and physics 2 as a sophomore in the fall. So, it's freshmen – first year, second year students. The biologists needed physics 1, but they are mostly interested in biology, so they put it off as long as possible. So, there were seniors and getting ready to graduate, so anyone who wasn't really particularly interested in school was cleared out by that time from the biologists, but I did get some of those in the engineers. Students who hadn't caught on yet to what it takes to be a good college student, or even a passing college student.

My early days as a new professor and what I am doing now

Some background on the program here: my hire in 2014 coincided with the acceptance of the first incoming class of freshmen for the program, so it's still very new. They had an engineering 3-2 transfer program where students would take three years of math, science and liberal arts at [Current Institution, a Baccalaureate College], transfer to – most of them transferred to [Post-Doc University]. We also have agreements with [a few other nearby research universities], and a catholic university. And [the 3-2 transfer program has] been around for a long time, I don't even know – it started in the 90s maybe even earlier. It's been around for a while. As I understand, it was pretty successful but there was enough student interest in having a degree that was 100% at [Current Institution].

In fact, what would happen is, some students would come, they would start in the 3-2 transfer program, and then realize, "I really love it at this school here." They didn't want to leave their friends, they wanted to continue playing on the sports teams, and so they would switch their major. They could still graduate in four years with a mathematics degree, the way it was structured. That had been around for a while, the head of the engineering program had been hired

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mid to late 2000s, with the longer-term goal of expanding the engineering offerings and so they got that approved, they got the program started, and they hired me to come help teach some of the courses.

Because we already had some engineering presence on campus, there were some students who were able to switch their majors once they learned there was a four-year degree here. So even in our first year, we had three graduates. That's kind of the background of the program.

The standard teaching load at [Current Institution] is four classes per semester. So, it's high. I knew that going in. It's even a little bit worse for programs like engineering that don't offer a large service course, a course that fulfills requirements for other general education requirements. Because we only have one class that has more than one section. So not only is it four classes, it's also four different preps every semester. But I knew going in – I had seen enough programs, either from interviews, from application descriptions, to know this is fairly typical for a non-elite liberal arts school. I knew what to expect going in, especially that first year. I knew that I was going to be full on course preparation for a bunch of courses that I had not taught before. They started me off – I only had three courses during my first year – three courses a semester, so it was a little bit lighter. And that's continued a little bit as well, I think that at least my dean – he realizes that there are some of these cases you need to transition up a little bit before you reach that full load. Even my second year was a little bit – credit hour wise – it was a little below what the contract actually states.

It's been interesting. My broad background helped a lot in this type of program, where we have students who are interested in all different types of engineering, but at the same time, I've been expected – I have taught a couple courses that are courses that I didn't specifically take as an undergrad. The biggest examples would be statics and dynamics. As a chemical engineer, we weren't required to take those. I had some notes to work from, there are a lot of resources, it's a very common course at other schools, so there are a lot of resources to work from. But essentially, during my first year, [I was] teaching myself how to do statics and dynamics. I also picked up this book "Teaching What You Don't Know."

It's [the book, *Teaching What You Don't Know*] pretty good. It's pretty helpful. It's not technology or science related, but it was a good – it basically gave me some confidence that it's alright, that people do this stuff a lot. That students will trust me. That they'll understand – and I can be upfront, like hey, this is not something that I have a lot of expertise in, but we can work

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through it together. Actually, one of the points I took away from it is that in some cases, students learn more when they are taught by a non-expert, because someone who is just learning the material recently will have seen all the common pitfalls. The conceptual mistakes, so students end up actually learning more from those experiences than someone who maybe expects them to know things that they don't, that they haven't had a chance to learn already.

There's two reasons [I started going to the American Society to Engineering Education (ASEE) conference]. One is professional development, because I didn't have a lot of teaching experience. With the adjuncting, I had a fair amount of lab experience, a little bit of lecture teaching, I had the class that I took in grad school. I didn't mention it, but there was a short seminar that I took that [Post-Doc University] offered: Teaching Engineering, which was essentially a two-day seminar, but that was basically it. I knew that I wanted to get away from lecturing. It's not really my strong suit, and it was not the way that I liked to learn when I was in class. So, it was kind of two-fold – just to join the organization to learn more about different research supported classroom methods that are out there, and attending the conferences would let me see some of these. The workshops have been extremely helpful. The other reason I've been there is to learn more about ABET, essentially, because that's a goal of ours. As a new program –we haven't really been mature enough as a program to give any evaluators something to go off of. But [accreditation] is an eventual goal of ours. And my dean was very interested in sending me, because ABET holds workshops and presentations about the accreditation process. That was a big reason why [Current Institution covered the expenses for me] to go to ASEE.

At ASEE, I attended a workshop about team-based learning, and I knew nothing about it going in. The description of it sounded like a technique that would fit well with what I wanted to do in class, so I attended it and I was really impressed. I ended up implementing it in a couple courses – one per semester this past year. In a couple of courses that I was not super satisfied with how things went the first time through, even considering that it was my first time through them, I was very happy with the results. That was probably the biggest thing I took away from ASEE, but just talking with people about – “what are the tools you use for managing groups?”, or “how do you handle homework when you don't have the resources to grade 100 homework problems every week?” The exchange of ideas, different techniques, just to get myself more involved with the education aspect of it. That was something that had been missing.

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The concept of team based learning in miniature is that it's supposed to encourage discussion and arguments of students, and in the idea that they have to come to some sort of consensus. And I think it works – it is essentially a model of the flipped classroom, and I think it works for me and for a lot of students because there is a fair amount of structure to it. It's not just that the teacher gives you a couple of problems to work on and they'll come around and help you if you need it – I mean I do come around and help them out, but the idea that you have to come prepared, and that's enforced with these quizzes, and you have to be prepared enough. You're not just responsible for your own knowledge, but for the success of your team as well, and that can be a stronger motivator for students. If they are going to be held accountable by their team members. Discussions and arguments among team members, it also takes advantage of the idea that you really learn something when you are teaching it to someone else. There's something about your brain circuitry that solidifies that knowledge when you have to synthesize that into language that is understandable by someone else. So, I really like getting the students discussing, arguing, talking things over, hashing things out, and then they have to show something for the discussions.

The goals [I have] for myself [as a teacher]: is it cheating to say, “have students that meet their goals?” I guess to have as many students as possible meet the learning objectives, understand the material, and be able to, contextualize it into the broader – for design, you can start thinking about very broad communal topics if you want, and we probably do touch on that a little bit. For [my engineering design] course, what I want them to take away is: be familiar with the process, get some experience. There's the lab where they basically have a couple of big projects that they work on. I am successful if my students are successful. I don't know if I have a lot of personal goals beyond that.

What tenure looks like here

Every year you write up a report, basically a yearly report after your – it's called the second-year review, but really it's at the beginning of your second year. After your first year and after your third year, these reports are sent to the department chair, the dean, the VPAA [Vice President of Academic Affairs]. The VPAA basically just says, yeah, I received it. But the department chair and the dean, you get together and meet with them and discuss how things are going. That report goes through all of the different expectations for tenure. Every bullet point of

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the faculty handbook under teaching, under research, or scholarly activity – and that's the process up until, during the fourth-year review, a lot of the material gets sent to the rank and tenure and your committee and they go through it as well.

You would include things like student evaluations, syllabi, basically, one thing you want to do is show that – how your syllabus has progressed, based on what you've learned from your earlier times of teaching that course. Basically, like the ABET continual improvement process. So, the evaluation, it gets sent to the rank and tenure committee, and they meet – it's a small enough school, they only have a handful of these a year. From what I understand, they can spend a lot of time going through them without having to rely overly on student evaluations or other quantitative measures. They can evaluate your portfolio as a whole. You put together a list of your accomplishments as well, that would go into your yearly report too. Whether they are officially recognized ones, or whether they are feedback you got, a note you got from a student saying, "thank you for making statics fun when it shouldn't have been," things like that.

After your fourth-year review, they give you very detailed feedback and then you basically have – technically, you have – they give that back to you mid-way through your fourth year, so you have spring and then your fifth year, and then during your sixth year, you submit your tenure package. So, stuff that's going on currently doesn't really get in there. So, you have three semesters to basically take their advice and incorporate it into what you've been doing. And that applies not just for teaching but for all aspects of it. And they evaluate you – they really do evaluate you as a whole. And they are understanding of things like, it's a brand-new program, I am spending a ton of time developing courses, and so maybe it's alright in that case, that other areas are maybe not quite as high as other faculty members might be.

I like that I can get into the lab a little bit, that I can help students out if they want to do some research, and when we start getting more capstone projects being done, I think that will be a really fun experience. Just helping them succeed and carry out what it is they want to do. The teaching has been good. The students are – we get a good mix of – we do get some very bright students, some that have the goal coming in that they want to go on to a PhD research program, not everyone does, but I would not say the quality of the students has been an issue. I enjoy teaching, in a couple years it will get to the point where I might not have to be developing a new class every semester – that's probably the one thing I don't like – it takes a lot of time to do the course preparation. I do have time over the summer, I'm maybe not as proactive about it as I

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should be, but it also wasn't something that was unexpected to me coming in. I was prepared, especially to spend the first couple of years, spending a lot of time doing this stuff.

Other thoughts

I think that's just the difference in if the primary goal of your institution is to advance scientific research versus to graduate good educated engineers, that's going to come out in the people that you hire, in the way that your program is structured. But like I said, I felt pretty aware of that going in, so I wasn't really surprised to see that. I would say even more so at [Current Institution], perhaps because it feels more of a community here. [Adjunct University] – they cater a lot to – they get a fair amount of people going back for degrees, non-traditional students I guess. [Current Institution] is more, come here for four years, there's a monastic community on campus that is its own little – it's very communal in its nature anyway, and the faculty here – if that's not what you're looking for, you'll probably not end up staying here. The faculty, they are here because they like that sort of environment.