

Buswell, N. T. (2017). Narrative 12: Tyler Colton. In *Swimming upstream: Pathways of new engineering faculty at non-R1 institutions* (Doctoral dissertation). Pages 209 – 219.

Narrative 12: Tyler Colton

*Tyler Colton is an assistant professor at a Doctoral University: Higher Research Activity. At the time of this interview, he had been in his position for a year and a half. In this narrative, Tyler describes his pathway to his current position, one that focuses on research much more than he would prefer. Tyler also describes how his Current Institution might not be the best fit for him, and what he is looking for in the future.*

### **How I got here**

I kind of knew that I always wanted to teach. My parents and both of my sisters, they're all actually teachers, and they all teach elementary school. But I knew what their life looked like and I knew what they did, especially my parents. I really was interested in that and really wanted to do that. And I'm not sure why it went to the college-level, but I guess it just kind of did. I liked engineering and it was such a fast-paced environment, I don't ever remember sitting down thinking, is this engineering stuff, is this what I want to do the rest of my life? It was just always looking at the next class, the next test, and all these kinds of things.

I'm not sure I had a revelation moment or anything like that in terms of me wanting to do engineering. When I got in the field and started working there, I knew pretty early on that I didn't want to do that for the rest of my life and that I wanted to come back to the university environment and do that, so maybe that's what geared me towards where I am now.

I love to teach. If I can do anything in my job, just currently, research is just kind of something I have to do in order to teach, basically that's how I feel about it. That's how it is. But I got a master's scholarship at [Undergraduate and Master's University, Doctoral University-Highest Research Activity], I was doing my MS and I got to teach. It was a really small blueprint reading lab. I totally spent way more time than anybody should on it, and I just fell in love with it. I would stay up late at night working on it.

I actually left that and did a different job for four years, working in industry. And then I always wanted to come back and teach. And so, I met with some people, some PhD professors basically at [Undergraduate and Master's University] and they said if I want to teach at the college level, I have to get this PhD, that's kind of where my motivation for – I had never done

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any research before then. I just applied to [PhD University, R1], for family reasons that was the only place I could really live. I got a research position at [PhD University], and that's where I learned to do research. It was new and interesting, and I knew I had to do it in order to get my degree. And so, I went through the motions there and did that. I sought out opportunities to teach at [PhD University] and got to do that a lot as well.

I got to teach a lot [at PhD University], kind of more I think than the average person does. So that was very fulfilling. I got to be the lead instructor for a few classes and TA a whole bunch. But the research part of it, it was something I had never done before so that made it interesting just on its own, that I'd never done this. I got to do presentations to industry groups a lot, so that was similar to teaching so that was kind of exciting. But the rest of it, all the writing, all the research steps, I basically knew that this was a four-year window and that there was a light at the end of the tunnel to this thing that I really wanted to do. And so, I just kind of did it. And being a graduate student is a lot different than being an assistant professor, I would say, or at least for me. [During graduate school] I was given individual tasks, write this paper at the end of this week, just very achievable tasks that didn't last very long basically. So that made it easier I think, just to kind of check-list through and go through this process.

That took four years. I was more interested in research, I still really liked to teach. At least this is what I thought when I was leaving [PhD University] – that the high paying academic jobs, you have to do research. And that may not be true, but up until today, I still haven't found another path really, that all the money is in research basically, and that may not be true.

With that, I thought, I have this PhD, so I need to go find a research position and I'll get to teach some as well. I just applied for everything that was open that year and I had a few interviews, I was very blessed by that. Basically, out of all those, [Current Institution, Doctoral University- Higher Research Activity] seemed to be the best fit. There's not so much drama as there was at [PhD University] or some other places I went to. It's really crazy though, I interviewed at two schools that were heavily focused on teaching. And I don't know if it was arrogance or to think that I need to do research because that's what I do, but I got job offers from those schools, but I just turned them down, and didn't think twice about it. I would definitely go back and change that, or I would have taken a lot more time to think about – I guess what I'm

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really interested in and what I really want to do, and not put so much weight on the actual salary or the school or things like that.

So, I picked [Current Institution] because the faculty, the facilities, and then it's pretty close – it's relatively close to family versus to other places I got interviews. And then it's a major research university, so I thought that's what I have to have. And I've thought about this before, but going back, I would have spent more time focusing on what exactly do I want, and kind of seek out those opportunities.

[When] I interviewed here, I think I met almost everyone on the faculty and I presented my research, that was maybe thirty minutes, and then the rest of the time was just meeting all the deans and the department heads and people in my area. It was a two-day process here. At the teaching school, it was a one-day process. That was actually much more informal. The faculty in [the teaching university's] department was maybe ten people so they all just met me in one room at one time, and then I prepared a sample lecture for them and did that for maybe thirty minutes. That was basically it. I looked through their facilities and talked to some of the students, and so that was actually much more enjoyable than here [at Current Institution]. I went to a few other major universities where it was two or three days long of meeting people one-on-one and just the same conversation over and over and over.

During the interview [at Current Institution], as I was interviewing, you know we have our three areas of work. Basically, we have research, teaching, and service. And after I was hired there, some maybe long-term people there, people that have been successful there, really kind of ingrained in me that you have to do research – without research, there's no way you'll get tenured or be successful here.

One of the quotes from my boss, was that your teaching level should be at an average pace and as long as the parents and students aren't complaining, you need to spend more time on research. That was kind of the message there, was that the more time you can spend on research and make teaching average or adequate, the more successful you'll be basically. He even told me that I should not win any teaching awards. That that would be a bad thing. And this was all in jest, it wasn't like a serious conversation or anything, but that was kind of his advice to me, you have focus 90 to 95% on research and then teaching, you need to get really good at kind of

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standing up there and faking it, make people like you, and then kind of just go through the motions.

So, that's where I am today, I spend way more time on teaching than someone would advise me. But I really just enjoy it and I find a lot of success and personal satisfaction from that. And I get exposure to people, and I still do a lot of research, and I guess I find some joy in that when I'm successful in terms of getting a paper published or getting a project or interacting with the students, but most of the time, it's literally me, sitting in front of a computer, just writing. That's kind of how it goes. I don't enjoy that part so much.

I'm actually kind of seeking out positions, and it may not be immediately, it may be later on, but I am seeking out positions, where I can just do teaching, or teach most of the time and just do a little bit of research on the side. [Even so] it was huge blessing to get to come here because if I had gone to a teaching school or somewhere else first, I would have always thought that this is what I would have wanted. To do research and then teach some and be at a major university and these things. And I'm glad I got to do that. I guess knowing what I know now, I would have sought out opportunities at maybe smaller schools or teaching schools, and that probably would have been more satisfying for me.

Even, tenure, I used to think that was so important. But it's such a rouse. With our generation, I feel like, no one wants to build a castle at this one specific place and live there their whole life. I don't want to live at one place my whole life and so it's – I have no interest in getting tenure at [Current Institution], it's just a process I have to go through.

### **My preparations for teaching**

My first experience [was] a really small, it was called [Math Workshop Name], but I was a junior or senior at [Undergraduate and Master's University] and it was a recitation class for calculus one or two. It wasn't teaching but it was just walk around and help people work calculus problems. So that's kind of where it started, that wasn't such a great experience. I was an undergrad and didn't care about my future. I mean I cared, but I just went through the motions and got the paycheck from that I would say.

But as an MS student, the laboratory that I [taught], it was maybe 60 or 70 people per semester on Tuesdays and Thursdays, something like that. So, it was that type of class, it was

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mainly lecture and then maybe twenty minutes at the end they would start to go through the drawings and we would talk about that individually or in groups.

That was my real first [teaching] experience, I would say. And then, after I left there I had a few opportunities. I was [at Undergraduate and Master's University], so I had a few classes that I taught to the other engineers there, it wasn't really college style, but it was me sharing how to do some software, or something like that, with a group of engineers. So that was some teaching that I did there.

And then at [PhD University], I was an instructor for [an engineering introduction class], I did a seminar, and then I was a TA for several of our classes there. And as a TA, I substituted maybe like five or six classes a semester, something like that.

My advisor was really successful in getting research sponsorships, so he was constantly traveling everywhere and, so he made a – I guess it was a deal or something with the dean to allow me to be lead instructor on a few classes for semesters where he was going to be traveling a lot. So that really helped. And then, on the TA side, if there was a random open Friday, where he couldn't be there or didn't want to do it, then I would volunteer to teach that class as well. We did a seminar, and that wasn't really me teaching so much, but I would organize speakers and companies to come and talk to students, so that was fulfilling as well.

[PhD University] was even crazier than where I am now. It was just all research all the time, constantly, and the students in these classes would just have to figure it out. That wasn't anywhere near the high priority list. And so, it was just all about my advisor couldn't come or didn't want to teach. And so, I basically sought out those opportunities. But it wasn't necessarily to improve my teaching skills or anything like that, it was just to meet a need.

So, my experience has increased from when I started until now. I am a lot better at it now than I was, I think, at least from my perspective, then when I started. I think I'm much more creative and willing to innovate and things like that, then at [PhD University], there was, you know my advisor was looking over my shoulder constantly, so I just did whatever he said and went with that. It's much better, I'm much more experienced and willing to try new things now, I would say than when I started.

This idea of what [professors] do formulated as I was watching my advisor, and at [Undergraduate and Master's University]. This is crazy, but as a master's student, I didn't really

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understand. A lot of my friends were research assistants, I had no idea what they were doing, I really didn't understand what they were doing. And I remember, but as an undergraduate we had our senior exit interviews where we met with the department head and told him what we thought, and I think everybody complained about the professors are only interested in research, they're not spending time teaching classes, and I understand why that's the case now. It totally makes sense.

I guess I started to get a picture of the teaching side of what [professors] did at [Undergraduate and Master's University], and then at [PhD University] I learned about the research things that they do, kind of how to manage research projects and all these kinds of things there. And at the very end of my time at [PhD University], they started teaching a course, or something like that, for graduate students that wanted to do academia for their career. I took a few of those classes and really kind of got the full picture of what goes on, basically. And then obviously since starting here, I've learned a lot more about how you come up with a budget and where the money goes and all these kinds of things in terms of research.

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

Now I'm teaching four different classes. Those are across two semesters. Teaching at the college level is really unique as opposed to maybe like high school or lower-aged group or adult education or something like that, because – I guess in engineering I would say this, at least for [Current Institution], there's a ton of opportunity to do new and exciting things [in your teaching] and I feel like the students have been beaten down so much with PowerPoint and just random PDFs that they're supposed to read, and I don't think people learn like that. And I've noticed that anything I do, unique, whether it's effective or not, they just can't get enough of doing something unique.

I really want to look at education in terms of engineering education and how we educate people. At [Current Institution], everybody makes a PowerPoint slide, we share them with everyone else and we all get up there and give our best impromptu about whatever the heck we're talking about. And the students, they get the same content repeated over and over through many different classes. And it's really crazy – they're paying a lot of money to take these

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classes, and I would argue, especially for private high schools, I think the education there is much greater than what we are providing here at our university, or at least what I've experienced.

And so, the conversations around teaching are mostly about how do we gather content for our ABET reviews, it's just assumed that everyone knows how to teach. And so, there's no instruction on how to become a better teacher, no one has ever observed my classes, ever. And I'm not sure they even look at my teaching evaluations. They may. I think if they go really low, I think someone will look at them. But I don't think those are looked at.

I would say minimal effort is put into improving or maintaining our teaching levels. It's all about organization, in terms of teaching, how do we get all this content together, who's going to cover this or that class, and then the rest of the effort is put into research. I think people that are research driven, they seem to really enjoy the balance here. People that like to do research and that are kind of all into that, seem to enjoy. But it's basically maybe like 90% research and then we do some service, which basically it's highly encouraged that we seek out some research service opportunity to kind of foster with our program. And whatever classes we are assigned, then that takes care of the teaching aspect.

I even signed up for [a Teaching English Program]. It's foreign students that come here, they're freshmen level, they don't know English so well. I just teach basic engineering classes to them. We basically interact in English, is the major take-away from that. And that was actually frowned upon by my department head. It's not a criticism or anything like that. We are very research driven so all aspects of what we do in terms of our job here is how can that improve research, basically.

In terms of the job, the teaching is really good. The students are good, they're respectful, they want to learn, and I think a lot of that comes from – there are a few other people that they hired at the same time as me that are interested in teaching as well, or they have kind of a unique perspective on it, so the students are just kind of begging for that. If you even just turn the projector off and just talk to them without PowerPoint, they just love it. It just blows them away and so things like that are really – I find fulfilling in doing that and just teaching people. And finding students jobs, that's really exciting, or being able to recommend them to a really good company and the company actually following through and the student getting the job, that's really fulfilling and exciting.

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The faculty – they're very friendly, there aren't any problems. The facilities are really good in terms of the classes and the offices and those things. And then the actual community outside of the university is really good for family and we are close to our extended family. So, all of those kinds of things are good. They're good reasons for us to be here now, I would say.

### **What tenure looks like here**

On paper [teaching] is supposed to be a third of what we do. I haven't gone up for review or anything like that but my preliminary reviews, all the comments always focus around – they're happy about my research productivity, or they're happy that this student graduated with his PhD and these things. My teaching evaluations are really good or above average, so maybe if those drop down, maybe they would start to talk about that, but it's hardly ever any discussion. I don't think I've received a single comment about teaching.

[Teaching is evaluated] mainly through surveys, through student evaluations at the end of the semester. I guess that works. The students get to express how they feel. I think a lot of that – I don't know – my wife is a teacher here as well, and she gets crazy comments on her reviews and it's very frustrating. I don't know if that's the best way, I think it's a very subjective way to measure the effectiveness of a teacher. But that's what we do. We do [student] evaluations, and that's basically it. We are not observed or anything like that.

I picked up one class that was outside of my field just because no one else would do it, and so I got a pat on the back for that, but no, this was a good class, or good job, nothing like that. And so, I would say [teaching factors in to tenure], very, very minimally. [That bothers me] a lot, actually. The really hard part is I have a family and kid, and so my most valuable resource is time, it always is, and I think it always will be until I die, I guess. I always have to look at these 24 hours a day that I have and how I am going to use them. It's really tough because I love to teach, and I love to spend a lot of time on that and make it really good, make a good lecture, make a good class. And the hours I spend doing that aren't rewarded, and they're actually frowned upon to some degree because it's less time that I spend doing research. and so, it's not a criticism of the university, so much as maybe, I'm not the best person for this specific research-driven position.



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But yeah, it is frustrating, it's really hard to manage time because I see people that have been here for a really long time, and they're still teaching on transparencies and overhead and all this really old school technology. You know, you can kind of watch yourself slowly creep in to that, because you're battling yourself in terms of I want to spend three hours making a really good experiential learning exercise for this class, and it's never heard of again, no one seems to care. And [some people have] PowerPoint slides and just walking in five minutes before it starts and talking about it. And it's kind of like, ahhh, I'm a fool for continuing to spend so much time doing this. It's not easy, it is a little bit frustrating sometimes.

Just the actual activities of the work related to research are pretty boring to me, and they seem like – I guess it just seems very non-impactful to the rest of the world, or to anything really. So, with higher research productivity comes all kinds of management tasks and more writing and more students, and on and on and on. So, it's good, I mean I feel like I'm on track to get tenure and there won't be any problems there. But the amount of work and the amount of time it takes me to get to that level to where they're satisfied or higher, it's a lot of hours of staring at my computer and writing. Just things I don't like to do, basically.

The actual achievement metrics for both research and service are very vague. Some of my senior departmental members assure me I am on track and should not worry. People often encourage me to continue on my path. I have been instructed that research grants are most important for tenure with regards to research and journal papers are second most important. It seems the requirements for service are even more vague. After inquiring several of my senior colleagues, I have been instructed that as long as I have some record of service, I should be fine for tenure.

I do wish the metrics were better defined. I understand, specifically for service, that it may be impossible to clearly define metrics. I do think an estimate of metrics would better direct young faculty members. The balance seems to be heavily weighted towards research. The most important thing for my tenure is research funding. I do wish the balance was more evenly weighted among research, teaching and service.