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Narrative 8: Emma Edgerton

Emma Edgerton is an assistant at a Doctoral University: Moderate Research Activity. At the time of the interview, she had been in her position for a year and a half. In this narrative, Emma describes how she recognized her teaching goals as an undergraduate instructor and how those goals shifted and developed throughout her educational path. She also describes how she tailored her application to one specific university, demonstrating that she understood the university's goals during her interview which she believed was instrumental in getting the position.

How I got here

My dad was an engineer, and two of my older siblings both became engineers, so I knew I was going to be an engineer and applied to a bunch of schools. Knew that I didn't want to be at [elite Doctoral Universities: Highest Research Activity], wanted to be at a more hands-on technical school, so I applied to schools like [example institutions], all the technical schools. And I got in to most of them that I applied to and I was beyond thrilled because I not only got into [Undergraduate Institution, a Doctoral University: Higher Research Activity], which was kind of my number one because they had a [disciplinary] engineering program and I knew I wanted to do [disciplinary] engineering, but I also got an amazing scholarship.

So, got the scholarship, got in. Knew I was going. Sophomore year, I really struggled. I was playing soccer on the team and struggled with my academics, was not the best student. Probably wasn't putting in my best effort, wasn't really engaged in the courses. So, I was really struggling.

And [I thought], ok, maybe I need to not be an engineer anymore and stay at [Undergraduate Institution], or maybe I need to go to a different school and be an engineer at some place like [University of Home State]. I'm from [Home State], so go to a smaller school and get a little bit more support, where I'm not just a number. And I kind of had a heart to heart with my parents and my dad was like "you are an engineer, you have been an engineer your whole life, this is your path, you just have to stick it out. It's ok if you're a C student. It's ok if you're not at the top of your class, we just want you to get your degree."

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So, I got into it, and stayed at [Undergraduate Institution] and stayed in the engineering program. And then once I started taking the engineering classes related to my major, I thrived. I was a fulltime student, I stopped playing soccer, and I got all As in the rest of my classes. When I got to the point when I was thinking about career readiness, I met with my advisor and I said I really want to go and get my PhD because I want to teach at a university.

And she said to me, and this is a day I will never forget, she was like, “you’ll never get into a graduate program, you are wasting your time.” And I was heartbroken, I was devastated. And then I met again with my parents and they were like, just apply, what’s the worst that’s going to happen? You don’t get in? Well then you apply in November, and if you don’t get in then you can start applying for jobs in March. So, I applied to seven schools. I got into all seven schools. I got funding at some places, but didn’t get funding at other places.

I chose [Master’s and PhD University, a Doctoral University: Highest Research Activity], I went in knowing exactly the lab I wanted to work with, exactly the advisor I wanted, and the type of study I wanted to do. So, I got to jump in and take over on this study that was ready and well suited for me. So, the races were running, everything went smoothly, and that helped me rapidly get through my master’s thesis in the first two years and allowed me to finish my PhD in two additional years.

What I realized while I was there is that I absolutely love the research. I love the protocol development, I love research development piece. I hated the idea of what my advisor did. I didn’t want to sit behind a desk and write grants. I didn’t want to be the planner of studies, I wanted to execute them. So, then I was like, ok I’m going to go work for a lab and be a technical engineer working in a lab doing studies for a company. So, I started applying, applying, applying, applying like crazy because I was coming towards my thesis defense, but I couldn’t get a job. I applied to probably 50 jobs and I could not get an interview.

I started fretting and panicking a little bit, being like, what the heck is going on here, what can I do? Someone had suggested doing informational interviews, so I did some informational interviews with some top people in [relevant] companies. I met with a guy from [a relevant company], and he said to me, “listen, you’re now overqualified for the positions we want to hire you for. You have a PhD and we can’t pay you as a PhD, we want to pay for people with a master’s.” So, I asked, “should I just take my PhD off my CV, what do I do, how do I get

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myself into this position?” And he said, “no, what you really need to do is, you’ve had all these great experiences in [specific research area], you’re clearly an expert in [that], but we don’t know if those skills are transferable. Why don’t you go and do a postdoc and learn a new skill set, and just show that your skill set is transferable, and that you can work in any [related] field.”

I took his advice, and I started applying for postdocs, knowing that it was going to be a two-year post-doc, and that this isn’t what I want to do for a long time, I’m just getting this experience so I can be a manager in a lab rather than a technical person working there. Then I’m at a postdoc at [Postdoc University, a Doctoral University: Highest Research Activity]. I got that position from connections, networking, it was a friend of my husband’s, was a new faculty member that worked at [Postdoc University]. He was brand new to the department, he had just started this lab. He knew that my objective was to get a job in industry. So, my role was to be the lab manager, to maintain all the equipment, run the lab. I trained students, I dealt with all the protocol development, all of the subjects, all the kind of management stuff that I didn’t have experience doing before.

But I got really involved with the research and writing grants and helping him develop some of the great researchers that they have there, to getting funding so they were able to do the work that they wanted to do. And I kind of fell in love with the whole teaching aspect again. Because I was teaching students in the lab, it was ten students at a time, learning a protocol from me. Almost an academic teaching environment, but in a lab setting. I was kind of getting frustrated with that I wasn’t getting paid very much, working ridiculously long hours, was thinking about having a kid. At this point, I actually was pregnant. And I said, I have to move on, I have to get a real job. I’ve been here three years instead of two. I’m going to try to get a job.

I [asked myself], what do I really want to do? And I said, so what I love about my job right now is the teaching component. How can I teach and maybe not have the pressure of R1? When I was at [Postdoc University], we submitted 7 or 8 grants and we didn’t get any of them. And I’m thinking, we had a three-million-dollar startup, we had all the resources in the world, we had [Postdoc University] facilities, we could do anything we imagined, and we did it, we actually did it. Anything we said we were going to do, we ended up accomplishing our goals. But we couldn’t get external funding in the three years I was there.

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But I also got a firsthand look at the process and the stress [my postdoc advisor] was under and the emotional toll it took to submit these grants and not have them get through. When we got revisions back from grants and still didn't get through, it just seemed like we were butting our heads up against the wall, and I realized I don't want to do the R1. It's too much stress. The emotional frustration of having those grants rejected was too hard. It's like your life's work being put forward and they were just saying no.

[Then I asked myself], how can I get the balance? I still like teaching, I love the teaching. I enjoy the research, but I really want to be at a school that's not so tied to external funding. So, I started looking for smaller schools. I was kind of set at that point on staying in [Postdoc State], and I just stumbled upon this job at [Current Institution, a Doctoral University: Moderate Research Activity]. I applied and wanted to see what happens, and it was a perfect fit.

I applied to my current position and I applied to a position at [a Baccalaureate College], which is more of a [related field] school. So not a great fit, but they were looking for someone with an experience in [my field], so I thought, oh, that could work. And then I applied to a community school, it was [local community college] but it was kind of more of an adjunct position. And I wasn't really putting my resume out there, it was more let's just see if anything sticks. I put together a package and focused on my current school pretty much entirely and then rolled it over to the other two programs without making any changes. But I was applying to this position specifically.

They were looking for someone with a little more [other disciplinary] engineering background than I had, but I just felt like the size of the school, the scope – you're teaching three classes a semester, so it's teaching focused. And when I was applying and interviewing, it seemed like the research wasn't as important. Which is what I was looking for.

The first thing was a Skype interview which lasted 20 or 25 minutes. Once I got the Skype interview, I then interviewed for the position in person. And any faculty interview is the same, from the people I've talked to, but it's a full day, sometimes it's even two days. I was local, so I asked them if I could just make it a one-day thing.

I came in first thing in the morning and I met with twelve different faculty members, told them about myself, told them about my research, the classes – everybody wanted to know what classes I could teach. That was probably the number one question. Can you teach this, can you

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teach that? That was the most stressful question that they asked, because I had never taught any of these classes that they were asking me about. I kept thinking to myself, I should say yes, because I'm sure I could figure it out, but I also was [asking myself]: am I overselling myself and am I committing myself to something that I'm really not prepared for? But I was solid in [my field]. But they asked, "what experience do you have teaching?" It was very geared towards teaching.

They were interested in my research, but you could get the sense that the teaching was what – at least within the faculty that I met with, that was really what they wanted to make sure that I was confident to do. I had a presentation where I met with the dean and the people on the search committee, and presented my research in a twenty-minute talk, just to say, this is what I did, this is how I did it. This is the type of research that I think I could do at [Current Institution]. I remember everyone was so excited because one of the things I did in my presentation was to say, this is what we are doing, and this is what I could do here, and these are the people I could collaborate with. So, there's a couple people in my audience that had actually seen their name up there, being like, oh she wants to collaborate with me. I wasn't intending it to be like, oh I'm sucking up to you, I really didn't know who was going to be in the audience. It was more like, I'm the kind of person, I want to reach across the aisle and make a connection with someone and we can work together as a team to submit a grant. Because that's how we are going to be successful here.

I think the fact that I understood the process at this university – we're not a single lab that's going to get a three-million-dollar grant. Funding at a place like this works by having three or four faculty members get together and say, "hey, if we were to buy this instrument, I can use it for this reason and you can use it for that reason and we can team up and share our resources." I think the fact that I was kind of in tune with that helped me get the job.

I didn't actually have a teaching demonstration. I have been on two search committees now where both of them have had a teaching demonstration. I am grateful that I didn't have to go through that, because now that I know what classroom teaching is all about, I probably would have done it much differently than I would have in my interview.

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My preparations for teaching

I had a really good professor at [Undergraduate Institution] and he was flexible. He was really flexible in his lecture and he let his lecture evolve as the discussion happened, rather than “this is what we are talking about today and these are the topics that we have to get through.” That helped structure my style as an instructor. And then in graduate school I didn’t get a lot of chances to teach in front of a class, but my advisor had a couple lectures that I could give when he was out of town, so I lectured a couple times. It’s really hard. It’s not anything like what you expect it to be. You think you have enough information to cover six days’ worth of material and it covers twenty minutes. One of the things that I still struggle with is answering questions on the fly. Having students ask me a question and knowing what the answer is, or having to come back the next day and say “ok, so that thing I told you last week, that’s wrong.” So that’s always been a struggle for me and I think that that’s just a confidence issue and it will get better with practice.

My [PhD] advisor was very hands-off with me as a graduate student as well as with the undergrads. I never saw students in his office. He taught one class every other semester, so he really had little teaching load. In terms of teaching, I helped him with his biomechanics class and I was TA for that class, so I got to help with writing some of the lectures and writing some of the questions on the exam. But not that much involvement in terms of teaching. I TAed for the instrumentation lab in graduate school so I got to work with another faculty member and saw a different teaching style. But again, kind of hands off, not so much engagement with the students, undergraduate students. And these professors were very, very focused on the research.

I was the TA for a lab, which was basically me teaching the students in the lab. They would have a lecture component taught by a professor, but I was the one in the lab showing them how the equipment worked, showing them how to set up the experiment, helping them run through the actual protocol. I liked being up there, I liked the PowerPoint format and feeling prepared, I was always big on preparing some kind of worksheet that they would have to do in class, just something simple, to get them off their phones and on to the paper. I loved that. That was amazing. That helped structure my [current] class.

I didn’t teach at all at [Postdoc University], it was mostly just in the lab training. But again, big groups of students learning technique from me. That was probably more frustrating

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than the former because they weren't being graded. Undergrads, if they're not being graded for the work they're doing, they tend to sleep in, tend to skip out, tend to be hungry at 11:30 and need to go get lunch.

At [Postdoc University], my advisor, again, is new, so he's still developing where he's going to fit in to the whole ecosystem there. So, he taught some classes. I didn't have much involvement with his classwork, but I always felt like it was second fiddle to him, like it wasn't his first priority, he just taught it because he had to. His research was what was important. He had to establish his research lab, he had to get funding, in order for him to get tenure. That was his focus. He was also extremely smart and could probably teach [those classes] in his sleep if he had to.

Seeing that, I knew that [a Postdoc University] type of career was off the table for me, because I knew I wanted to teach primarily. I wanted to have students that I interacted with. I always went to get my PhD to teach. I lost sight of what it meant to teach when I saw what my advisors and faculty were doing at big research institutes. They weren't primarily teaching, they were teaching maybe one class a year, they were writing grants, they were doing research, they were advising students in the lab, but they weren't teaching.

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

At [Current Institution], it's been a completely different story [compared to my other institutions]. We teach three classes a semester – so six different classes throughout the year. And I have more advising, service burden, than probably anything else I do. It takes up more time, just meeting with students, talking about homework, helping them with their resumes. Advising them on what they want to do when they graduate. Helping them with team conflict. That's a big one with senior design, I have a lot of students coming to me about how their team is not functioning and helping them work together, and giving them strategies to be successful with conflict management and all that.

At a place like this, we mostly teach from textbooks. Senior design, and even [my field] is such an evolving field, it's harder to, but we have this very structured flow of the material that we work together as a university and even within the department. To make sure that they take [the right sequence of classes]. So, I'll meet with my colleague throughout the semester just to

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say, “hey, I’m going to go over this concept, how much do they know about this from last year’s version of the class?”

There’s a lot of collaboration across the faculty. We talk a lot about curriculum, and class flow from one year to the next. It’s all about improving the quality of their education, the quality of their teaching structure and style and whether the students are happy with it. I think one of my biggest pressures as a faculty member is student evaluations. They put a lot of emphasis on how important those evaluations are to the tenure process and your success as a young faculty member.

I’m teaching two classes this semester, so I’ll have four [office] hours. But it really depends on the classes. This semester, I’m teaching two senior level classes, so I meet a lot outside of class for senior design with the students. I think the expectation is you have to have four posted hours so if you have advisees that have to come see you, you have to have some time when you know you’re going to be in the office. But my office hours really fluctuate depending on the classes I’m teaching.

I’m involved in this leadership group here that helps women develop their skills and develop their career path, and that has been awesome. It’s kind of like a mentorship program, and a chance to learn more about yourself as an educator. The one thing that I’m struggling with, as an instructor is that I identify as a “learn for the sake of learning” [person]. I don’t care about the grade, I don’t care about the deadline, it’s just I want to learn it to know it and understand it. Whereas that’s not how undergraduates operate. They are there for the grade, so if they’re getting one point off for this, they’re like “why am I getting this point off?” and I’m like “it doesn’t matter, if you learn the material, that’s all that matters, right?” That’s been a struggle.

When it comes to the organization of the university, I was surprised with how limited the resources were. I had one amazing mentor who I went to with all of my questions and concerns. Without her, I would be lost, I would be drowning. She has guided me through the whole process and given me advice at every stage. I’ve been very fortunate to have her as a mentor, but that’s not traditional. There’s not an organized mentoring system in place here, I’m really advocating to create one university wide, but it’s not something that is traditionally available. That being said, I don’t know how to say this, but there’s a lot of pressure as a young faculty member – we hired

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you and you need to step up to the plate and figure this out on your own. This is what we hired you for, this is the class we hired you to teach so go teach it.

I think there's a lack of education or teaching preparation [in graduate school]. How do you actually teach a lesson? How do you engage five different learning styles? I still don't know what that means. You can't teach everybody the same way, well, I don't know how to teach five different ways. This is who I am and I try to incorporate different types of projects and ways to look at the work and homework and quizzes and tests, and in-class problems – so that's my way of teaching to different people, but what does that even mean to teach people with different learning styles? Understanding how to structure a lecture so that it's engaging, and also giving you the content that's necessary is my biggest challenge as a teacher.

One of the things that's really important to me as an educator, is that you can't just teach them content, especially in senior level classes, you need to teach them job skills, you need to incorporate into that how to communicate. If you're going to have presentations, you need to not only make them do presentations, but you have to provide feedback to those presentations and give them the opportunity to present again and fix the problems. It's not just good enough to say, ok do a presentation. Well what are you going to learn from that presentation besides the fact that you get nervous when you stand up in front of your classmates. That's something that's kind of a given. But how can you, as an educator, encourage learning during presentation. The one thing that I'm doing this year that I've never done before is peer-evaluations of the presentation and student-let feedback and discussions – so giving the students an opportunity to really think critically about what that person did well or what they could do better, and knowing that they are going to get that same feedback from that person at another point in time, I think that helps.

What tenure looks like here

[Teaching is] probably the number one thing. The thing they tell us over and over again is you have to tell your story. Let's say you get a bad student evaluation in a class one semester – you have to talk about why that evaluation happened, what you did in your syllabus and structure of your course to change the outcomes going forward, and you have to address it in a dialog. We have these faculty merit sheets we fill out every year. That's mostly a way to build our tenure

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package, but you show progress. You show, ok, I didn't do so well this semester, but that's ok because I made these changes and look how much better it got in the next year I taught it.

We use our student evaluations to directly change the concerns. This past semester, I had an incident of cheating, and I got nailed, I got ones out of five from two students, ones all the way down the line, and there's nothing I could do about those kids, so you kind of have to throw those evaluations out.

But then you look at things like – one of the things I ranked low this past semester on student evaluations is 'clearly defined expectations,' so I'll address this next semester by doing things like, I'm going to incorporate rubrics in all of my assignments. Providing templates for the style of the report, which I thought I did, but maybe the students didn't have access to it, and use it more appropriately during class time so they knew how to use my template. Just discussing that – how you improved, and then hopefully you show improvement, if I don't show improvement, then I'm in big trouble, but I think overall, I should be fine. Other things like 'enthusiasm' and 'dedication to the students,' no problem there, but finding ways to tell the story that shows you're evolving and improving as an instructor is really important.

Our department chair is expected to come and listen to our lecture at least once a semester. And we can invite tenured faculty that are in our field of interest. I might ask one of the tenured faculty in [other disciplinary] engineering to come and talk about the relevance of the concepts or something like that, so that he can say, technically she is doing a good job of introducing some of the key components into her class. I'll just invite them, I'll tell them to observe a lecture that they think is relevant to their area of expertise, and then they'll write up a half a page document on my ability. And those are basically the ways that we are judged on our teaching.

[In terms of research,] I think, if they were going to put a number on it, it would be some kind of publication per year. I think at a place like this, what that publication means is very different than [Postdoc University]. We were working for years and years to get a Nature publication. We didn't end up in Nature, but we got into Scientific Reports which is a second tier of Nature – that took four years of crazy hard research, forty to sixty hours a week, four people working on the data collection for a single paper. So, the expectation is not the same in terms of

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the type of publication. But I think they would like us to publish every year in something, it could be a conference proceeding.

We did [a conference paper] last year with a senior design project. I thought it was perfect because it was student work, the students were driving the project. It was a lot of advising, revising and editing of the paper and getting it to the right format, but the data and the content was student driven. We got published in a conference, and to me this is the demonstration of success for someone in my position. I think that type of paper, if I could do one of those every year, I would be all set. My goal is to take those and submit it from the best senior design project every year. But then also have some basic research-related project going every year. If I can get two, maybe three papers related to my core research focus in a more classical journal article, my goal is three of those before I got up for tenure, I would feel really good about my package.

[And then service,] mostly service to students. Advising, I have 40 advisees, so I work with them on their schedules. Again, I teach mostly seniors, so I do a lot with them in terms of resumes, career readiness, letters of recommendation. Then the other piece of service would be serving on committees. I've served on a college committee, a department committee, and a university committee this past year. Three committees, that's a lot. That's probably the most you'd serve on. But you're usually supposed to be always serving on at least one.

Other Thoughts

I think what really drew me in was the advertising of the university as a whole, and what they sell to the students, so paying closer attention to the admissions package of what the students are offered and the types of classes and the types of interactions. The fact that they commit to 20 students a section – no class is more than 20 students. I've never seen that in any of the experiences I've had. And I think that that's something really special. I know that's something that's challenging because we don't have a huge faculty, and our program is growing and it's hard to maintain that number of 20. But there's a big difference when you have 20 students. That means I know exactly what's going on with every single one of the kids in my class.