

**Episode 6 – Medtronic DC1516  
Podcast Transcript**

- Susannah Howe: Welcome to the Design Clinic Download. In this podcast, we dig into the experiences of Design Clinic teams and classmates through the years. I'm your host, Susannah Howe from the Picker Engineering Program at Smith College. This episode features three alums from the class of 2016: Marina Biggio, Bethany Claps, and Dakota Murray. Their Design Clinic project with Medtronic was on the design of a Veress needle indicator for minimally invasive surgery.
- I'm delighted that you're all able to be here today, and I'd love to start by just hearing what you're doing right now. What are you in the midst of, in terms of work, grad school, what have you? So Bethany, do you want to start us off? What are you doing right now?
- Bethany Claps: Absolutely. So I am Bethany. I am currently in supply chain consulting. So I work for a boutique firm called 4Flow, that's based in Germany. But right now I am a project manager, so I'm responsible for overall project success, some sales responsibilities, and I have a couple of direct reports thrown in there as well.
- Susannah Howe: Excellent. Great. Thanks. All right, Marina, how about you?
- Marina Biggio: Hi everyone. I'm Marina. I'm currently working in freelance marketing, so I'm working for a company called DISC Daily and they basically make assessments and coaching tools for coaches, HR managers, and it's basically all behavioral assessments to help people understand their workplace behavior and basically use that information to help with teamwork and cooperation and that thing. And so that's freelance part time. And then on the other end, I'm starting a business, so I just started a business as a psychic life coach, which is a little out there, but super exciting and my passion. So yeah, big things happening.
- Susannah Howe: That's really exciting. Excellent. And Dakota, how about you?
- Dakota Murray: I am a senior operations manager at McMaster Carr Supply Company. So we ship industrial supplies all over the country and world. And I currently am an operations manager in our warehouse, so I manage our large flow department. So pretty much the people responsible for filling orders, shipping them out, packing them, all that fun stuff. And then I also am currently in a master's program pursuing a degree in clinical mental health counseling.
- Susannah Howe: Excellent. Quite a variety of career trajectories for all of you. So let's take it back then to Design Clinic. When you were all together on a team, and I'd love it if one or all of you together could share what your project was. Who did you work with, what was the project, what was the short summary of what you did?

- Marina Biggio: We worked with Medtronic and we worked on a project designing an improved indicator for the Veress needle. So that's basically a needle they use in laparoscopic surgeries to inflate the abdominal cavity.
- Susannah Howe: What were your expectations coming into Design Clinic and how would you say the reality matched your expectations?
- Bethany Claps: I think there was so much buildup leading up to our final year and hearing from students before us and how challenging Design Clinic was. So I think there was definitely a level of anticipation and perhaps hesitation and a little bit of fear maybe for the challenge that I think we all knew was ahead of us. I would say that the actual Design Clinic experience for me was a lot less scary, even though I did just say I was traumatized by it, mostly because it was more than just our project work, it was the foundation for preparing us for the workplace and for our careers. So it was more than just a scary capstone project.
- Marina Biggio: Yeah, I think I was a little intimidated just because I knew we were going to be working with other companies and I didn't even know that that was a thing when I came into the engineering program. I came in blind. I was like, I don't really know what to expect. So I was a little intimidated about working with a company outside of Smith, because I knew what this Smith environment was like and I understood what that was. But working with another company was totally new to me, so I just didn't really know what to expect. But once we got going, I really enjoyed it.
- Susannah Howe: In the six and more years that since you've graduated, what has been your path to getting there? Let's hear about your paths going from graduation to where you are now.
- Dakota Murray: So I started at McMaster right out of college, that August a few months later and just worked my way up at the company. So I started off as essentially a management trainee or an analyst level role doing a lot of project work. Then moved up to become a supervisor and I managed a team of 10 to 15 people for about a year and a half. And then when I was in that role, I decided to pursue my Master's in Engineering Management. So while working at McMaster, I got a Master's in Engineering Management from Northwestern, which was really exciting to do. And throughout that time of pursuing the degree part time, I also got promoted to be a manager.
- And then I got promoted and moved into the role that I'm currently in about a year and a half ago, which is just managing several departments within the region. So I definitely feel like I found a passion for developing people and working with people one-on-one, but I'm still trying to find that balance of also working in a business and making business decisions and leveraging the technical skillset, which I also enjoy doing.

Marina Biggio: After I graduated from Smith, I took a job as a CAD engineer with an orthopedic company, Conformis. They make patient-specific joint replacement products. So it was so, so cool just to see the whole process of creating a product that's specific to someone's anatomy. It was super cool. So I did CAD for a while. It wasn't as much design as I wanted to do. It was following an SOP and just getting to know their programs and that thing. Started doing some training for new hires and things like that, but then eventually I basically did presentations for visiting surgeons. So we would have them come by our manufacturing facility, get a tour, see how everything was made. And I was the beginning of that tour basically showing them the whole CAD process, everything that happens up front before the files go out to the floor and get made.

So while I was doing that, I realized that I really wanted to be more people focused, similar to what Dakota said, because I just loved talking with people and helping people understand what exactly what we were doing and why did it matter. And luckily, the marketing team, they were basically in charge of all those tours. They saw that in me and they asked me to come over to the marketing side, "Come over to the dark side," is what they said. So I ended up switching over to marketing and it was definitely a more comfortable fit for me. So I did that for four years and this year I decided to make a change and start my own business. So that's been a huge rollercoaster ride. And on the side, just keeping up with the marketing, because I do really enjoy that.

Bethany Claps: Immediately after Smith, I went to graduate school to get my Master's in Engineering Management at Case Western in Cleveland, Ohio. And following that program I did a rotational development program for a UK based company that focuses on life safety products. And during the two years I was in that program, I rotated every six months to a different company and a different project. So following the end of that program, I was looking for production manager roles, so similar to Dakota and Marina, really wanted to have that people development aspect.

So I ended up in supply chain entirely by accident. And as a supply chain manager for a pretty small company, I was responsible for a lot more than a typical supply chain manager might be. So both standard procurement and new product development, material movement through the plant, our warehouse staff, layouts, health and safety. My biggest project was a building migration, and that's the project that really enabled me to enter consulting. So at the beginning of this year, I made a career change, was really looking for more career development and career advancement and a company that would advocate and support me in those goals. So motivated me to make a change, to pivot into the consulting world. And I'm really having fun working on different projects, going to client sites, getting to meet different people.

Susannah Howe: So none of you are doing anything right now that is at all connected to what you did in your Design Clinic project, at least not specifically, technically. So I'm curious, what skills did you learn in Design Clinic that you've used since graduating? What's transferred to your life after Smith?

- Bethany Claps: For me, the most valuable skill was learning how to conduct yourself as a professional human being. I think the foundations that we learned, agendas and meeting minutes and how to be organized are really an art form that I don't see very often in my day-to-day work. It's actually quite sad how little documentation there is, how much confusion and misalignment that causes down the road. So the fact that Design Clinic laid that foundation for me and created good habits to take into my professional career, not only has helped me advance, but it really helps build trust when I first meet a client.
- Marina Biggio: I think on top of that, it takes the problem-solving that you learn as an engineer to the next level. Getting an engineering degree teaches you how to problem-solve. If I were to just condense it down to its most basic form, engineering is problem-solving. And then Design Clinic is problem-solving on steroids, because you're taking this problem that not only do you have to solve, but you don't have any experience with. None of us were working at Medtronic, none of us really understood the surgery or any kind of surgery. So I think it teaches you how to problem-solve in the most holistic way, because you're really having to understand what is the actual problem, what's the process, coming up with designs validating everything. And problem-solving can be applied to any role, no matter what industry you're in. So I think that was probably the biggest benefit.
- Dakota Murray: Yeah, I completely agree with everything that Marina and Bethany said. I think that the value of Design Clinic was really honing out on those professional skills and then also the problem-solving components. And I also think it was a good opportunity to get us exposure to the tools that you use in the real world. I know that I had used Excel a little bit, but I feel like I used it a lot. I remember leveraging the Gantt chart template that we made in Design Clinic in some of my first few projects, and even in some projects I use now at McMaster. So it's just some of those things of the actual practical applications of managing a project and seeing a project through and communicating effectively and collaborating effectively. And I feel like a lot of the principles we learned in Design Clinic, whether it was in the brainstorming phase or the problem-solving phase, or the iterating phase, those have been super beneficial in all of the roles I've had.
- Susannah Howe: So what would you say was your most memorable or impactful Design Clinic experience? And I'll just say for me, I still distinctly remember the mid-year presentation that you gave, which was all circles and triangles and squares because you couldn't share any of the details of the project. And it wasn't till the final, after they had submitted some provisional patent that you could actually present with was you'd worked on.
- Marina Biggio: We had one day where we talked about salary negotiation. And I will never forget that, because that's one of those things I didn't expect to learn at all. And I think I took that with me to pretty much every job I've ever interviewed for just that feeling of, I'm the person who has to advocate for me and my salary. And

whenever I think of Design Clinic, I think of that day, because that actually really, really helped me.

Dakota Murray: I also remember going to Medtronic for the first time and actually getting to tour the production facility and wearing our little booties. I don't know, I just think that was so cool too, to see how different parts of products that we weren't necessarily working on, but that we are working adjacent to, were actually getting produced.

Bethany Claps: And I think the other piece that was unique to our project is that we got to actually make a physical something, which was such an interesting and hands-on experience. I think we were just so much more engaged because we could actually have something in hand.

Susannah Howe: All right. So with the benefit of hindsight, how do you see Design Clinic fitting into your overall engineering experience at Smith?

Marina Biggio: I think it just prepared me for the real world. And you never really know where you're going to end up. You just have to make good choices and make choices off of what you want to do. And even though we've all had super different paths, Design Clinic helped us get there no matter where we ended up. I think that was when I really realized documentation is super important because we basically handed all of this off to Medtronic for them to do what they wanted with it. And if you don't document what you do, it's not useful to anyone. And it's the same in the workforce too.

Bethany Claps: Yeah, I think it was the single most important class that I took at my time at Smith. I think it helped looking back for me to realize where I needed to grow. There were many a time where Dakota gave me that feedback and I was very hard on myself. And you gave me feedback as well, and it made me take a long hard look in the mirror and was really important that I had those stumbles early on and got the kinks out, so that when it was time to have a big girl job, I was as prepared as possible.

Speaker 2: So what advice do you have for future Design Clinic students to make the most of their experience this year and in the future?

Marina Biggio: I would say, don't be afraid to ask for help and don't be too hard on yourself. I think a lot of Smithies, pretty much any Smithie takes themselves really seriously and is a really hard worker. And I think that can turn into just forgetting to be self-compassionate and thinking that you can do everything and that's just not realistic. So just to be gentle on yourself and don't be afraid to reach out if it's hard. And just know that even if you fail, that's a good thing. That's how you learn, that's how you grow.

Dakota Murray: It's okay to fail, if anything, fail fast and fail often. I think that's been something that, even going into the quote real world, I feel so scared to fail or to try

something new and accept failure. But when I reflect back, it's all the things I tried and failed at, those things that motivated me even more, helped me grow even more. And that was definitely essential in Design Clinic. We had some big design failures that were very helpful in our growth.

- Bethany Claps: I think that anybody taking Design Clinic really needs to lean into the communication aspect. I know that when I was project manager, it was something that I really struggled with and Dakota told me multiple times, you just have to be clear with me about what you want and what we need to do. And I was so afraid of being either pushy or bossy that I just decided to not communicate. So I think learning that really early on and just owning it would be good advice.
- Susannah Howe: Anything else you want to share, podcast wise? Any closing words or other things you haven't had a chance to mention?
- Marina Biggio: Have fun. Enjoy it. It goes fast. And just stay engaged and make friends with people. Yeah.
- Susannah Howe: Great to see you. Thank you so much. It was really fun to connect. Good
- Bethany Claps: Toodle-oo.
- Susannah Howe: Don't be strangers, all right?
- Marina Biggio: All right. Bye guys.
- Bethany Claps: Bye.
- Susannah Howe: Bye.