



How to Educate Investors on the Biology Behind Your Startup

This transcript was lightly edited for clarity.

Chris: If you are a startup and trying to attract customers but also, and maybe especially, if you're trying to attract investors, you'll want to listen to this episode. Of course, investors want to know how you'll make money, but you may also need to explain the science behind your product or the biology that your product is intended to address. My guest today has a Ph.D. in Kinesiology, from Waterloo University and did her postdoctoral work at the University of Western Ontario. She is the founder of Sciconic, where she creates graphics and animations to explain science to a targeted audience. Please welcome scientist, artist, and communicator Shelley Sandiford to the podcast.

Shelley: Hello.

Chris: Welcome, Shelley. Thanks for joining me.

Shelley: Thanks for having me.

Chris: So I discovered your work because you were a guest on "Hack the Entrepreneur" so I want to thank Johnny Nastor for introducing us.

Shelley: Yeah, this is great.

Chris: One of my favorite podcasts. And I want to talk about your work and how life science marketers should think about the type of content you create. But I also want to hear a little bit about your personal story as well. So, Shelley, like a lot of us who love science, you started out at the bench and then have moved on to something different but related. So would you tell me a little bit about your background and your life as a scientist?

Shelley: Sure. You did just mention that my doctorate is in Kinesiology, and that has pretty much all stemmed, personally, from this lifelong interest in how the body responds to exercise, at the whole body on cellular level. So I basically went from analyzing body composition during my master's degree to analyzing muscle biopsies during my Ph.D. to growing muscle cells in a dish during my postdoc and looking at how certain perturbations might affect the ability of those cells to divide and develop into mature muscles. So that was basically the two-second synopsis of my science background for the past fifteen years.

Chris: Well, it's interesting. It's whole body all the way down to growing muscles in a dish.

Shelley: All the way down. Yep.

Chris: What got you started on the animation part of this?

Shelley: That was actually purely a hobby. It was never meant to become a full-time job. I loved to draw as a kid. But I was between postdoctoral jobs, and that was around 2006. And I had a little bit of free time, so I picked up Adobe Illustrator. And I started my first art website soon after that and just started to sell a little bit of art online. And it had absolutely nothing to do with science whatsoever. But it did get me going in Illustrator. And I also picked up, I think, around the same time or maybe a little bit later, Adobe Flash, which is an animation software. And that was my introduction to animation- was just to produce art, to try and get a website up that I had made in Flash, but that was all a hobby. There was nothing career-related to it at that time.

Chris: Right. Obviously, at some point, did you start animating science just to see what it would be like or...?

Shelley: Not so much. Not so much the animation side. I did use Adobe Illustrator to make figures and diagrams and stuff like that. But in terms of making things move and trying to explain science, that didn't happen until about a year or two ago.

Chris: Okay. As a scientist who spent a lot of time doing research, (I was) in the same boat for a long time and then we move out of the lab, it can seem like a pretty big leap, right?

Shelley: Yeah.

Chris: So what was that like for you?

Shelley: The leap was fantastic. By the time I left academia, and I left in 2013, I was really ready to try something new. And although a lot of years had been invested in that science

career, I just decided it was time to move on. And it just seemed like my remaining behind the bench seemed to be a bit of a barrier for me to try and get things off the ground. So that career, literally, I had to put that aside so I could start something new. And it just seemed like a couple of events just happened, boom, boom, boom. And a couple of stars just lined up, and it just was time.

Chris: Nice. I think it's hard for people because you do spend a lot of time going down that path, and you think, "Gosh, was that a waste?" or, "Should I have done something different from the start?" And maybe that comes up for everybody who switches careers. But there's knowledge you bring with you and experience that's an asset wherever you're going.

Shelley: Absolutely.

Chris: So what's different about your work that I've seen is that you're not necessarily animating products, for example, which is a typical thing that I see from companies. You're animating biology, which is a little bit different level of content. And you do the work to synthesize a mass of research to tell those stories. So tell me about your process for creating those stories, because you're not just taking a bucket of facts and throwing them down on a canvas. You're putting a story behind it.

Shelley: Yeah. Believe it or not, I actually compare the initial stages of animation to almost like writing a grant or writing a lit review. Because that's my background, that's what I'm used to, I just tack a few extra steps at the very end on to that. I dig into existing literature on a topic. And that might take me a good number of papers to wrap my head around something, particularly if it's outside of my own research area, which is most things. But once I've done that, basically, I write up an outline to break up the writing process. And I always keep in mind that because my animations are generally geared towards the general public, I'll start brainstorming some metaphors to see if I can bring that story together a little bit more clearly. Initially, the process is very loose. There's no limit or restriction to the number of words or ideas that might end up on a piece of paper. But once I have that outline and that metaphor set, I will take all that information, and I'll start writing up a script.

That script is generally about 150 or 160 odd words per minute of video, which is nothing, very little speaking. And that's where I start editing. So even if I'd started with 500 to 700 or even 1,000 words on a page, by the time I'm done chipping away at it, basically, only 150 words remain. And only those words that absolutely, positively have to be said so that the audience can follow what I'm saying, that's all that's left.

And I will combine those words with images, so you don't necessarily have to say everything because there's a combination of words and pictures. And I also look at it from the standpoint that because my animations tend to sit around a minute or two, you're not going to fully educate someone on the topic. There just isn't enough time. So my mission is just to introduce people to something and to get them to think about something or consider a topic in a way they've maybe never considered it before. So if I can push some curiosity buttons, that's pretty much what I do. I'm pretty happy with that.

Chris: I like that, the curiosity button.

Shelley: Curiosity button.

Chris: And I like how you laid out from the beginning. I think this is a lesson for anybody who's creating content for scientists or the general public. And what you said was you start out, you research the topic, and then you look for metaphors and figure out how you can work with those and then writing a script. I won't call myself an expert at this, but that's in line with how I thought I would have done it, so think of the metaphors, write a script, so you know the story you're going to tell in words and how many words fill a minute in a typical animation or video...

Shelley: Not very many!

Chris: Yeah, I know, I know. If you want to make a two-minute video, getting down to those 300 words takes some strong editing.

Shelley: It does.

Chris: And then creating the visuals behind that. I think that's just a great lesson for anybody listening who's thinking about telling a story about science or...

Shelley: Less words is always better.

Chris: Yeah. Well, I'm a writer, to some degree, so you hurt me a little bit. But that's okay.

Shelley: Okay, I'm sorry.

Chris: I'm totally with you. Fewer words is better. My wife would chuckle at that. Your work also has a warmth to it, that I've seen. So it's not just a clinical description of a scientific process that's clearly laid out in images, even though the topic might be clinical. Where does that come from? How do you put that into it?

Shelley: What's funny is I think a lot of the inspiration for what I do comes from the fact that I have a young daughter who has literally seen just about every animated movie on the

planet over the past three to four years. And the quality of those movies today are quite something. They're nothing like what they were when I was a kid. So a lot of that inspiration is actually coming from watching her movies. And even if that movie is an elaborate 3D movie, as some of them are today, if a main character is having like a dream or a memory or some kind of thought process, those generally play themselves out in 2D. They tend to be very soft. They tend to be very muted. And any colors that are being used tend to be really warm. So they tend to be yellows and reds and oranges. And for some reason, that really resonates with me for reasons that I can't really explain.

So when I try to put an animation together, I do tend to use a lot of blacks and black and whites and a lot of soft shadows and a lot of lighting, soft lighting, and a lot of those warm type colors because I think of it as a thought process, right? So if you're watching something that I've created, it's almost like you're having a dream or thoughts going off in your head, and it's very, very mellow.

Chris: Yeah! Interesting. I would've never guessed that.

Shelley: Were you looking for something more scientific than that?

Chris: No, it's not a way I would've thought about it. To make that leap to say I'm watching these things, and when they're animating a thought process or a dream, here's what it looks like.

Shelley: Yeah.

Chris: So I like that. So if a startup approaches you and says, "We've got this exciting new platform or diagnostic or research tool, we need an animation to explain it." What would the process of working with them look like to create that animation?

Shelley: Okay. So I would generally start by trying to get to know as much about that company as possible, what their mission is as a company and what their goals are for the animation that they want created and who their target audience is, because that script might be worded very differently depending upon who that end user or client or customer is. And I would need to have a good sense of what their budget is upfront. Animation does tend to be a little bit more expensive than people realize.

But once those initial conversations have taken place, we do start with the script. Always start with the script. It is the most important part, because good art and animation can't save a bad script. Go by the concept of garbage in, garbage out. It really is the most important part so if they're comfortable writing it, they can do that. I'll write it if they would prefer that I write it. We can hash that out. But once that script is done, I will create a

little bit of concept art, because by that point, I would have a good sense of their vision. And I have a script in front of me. So I'll basically put together a few pieces so that they can see where I'm headed with things and to make sure that we're both on the same page.

And revisions are very easy at this point. They become a little more dicey as we move down in the process. So once the concept art has been approved, I will put together a storyboard. And that's where I take the script, and I will make images to match that script so that the client can get a sense of when this is being said, this image is going to be up on the screen. It almost looks like a comic book, the way I make up my storyboard. So they will approve that.

And from that point, I need some voice-over. I will never ever start animating anything without having a voice-over first. And that just comes from experience. There's a lot of stuff to be redone if you don't animate to a voice. And normally when I do animate, I will put words and images to the pace of somebody's voice. So I do need that voice-over.

And once I have that, then I actually do start animating. I will put the audio into After Effects, which is the program that I work with, and I'll start bringing pictures to life at that point. And at that point, revisions are now much, much harder to make, because fiddling with animation becomes very dicey and very time-consuming. So I really do try to make sure that everybody is on the same page before this process starts.

But after the animation is done, if there's any post-production to be done, that might be adding some sound effects or some music, if that's what they want. And that's about it. So the entire process can take upwards of anywhere to four to eight weeks depending on the length and the complexity of the animation and how fast feedback is happening both ways and that kind of thing.

Chris: Nice. I like that you pointed out about, well, many things in there. So the script is the foundation of the whole thing...

Shelley: Yeah, it really is.

Chris: ...honestly, beyond understanding your audience and what you're trying to do. And the reason that a company needs to take all these things very seriously is because you're going to build a script, and you say, "Yeah, that looks good." And now, unlike if it were a printed piece of text, once you record the voice-over, now, if you want to change the script, you're going back several steps.

Shelley: That's right. You want to change the script, you got to change the voice-over. That's right.

Chris: And then once you get the animation, it's made for the voice-over and so on. So these things build on each other, unlike a written document, which can be hacked and cut and paste and changed, unfortunately indefinitely. But you're really adding a significant amount of work. So it really demands that someone's thinking very hard about each of those steps and taking them seriously and not saying, "Well, I'm not quite sure what I would do different. Let's see what the next step brings."

Shelley: Yeah, no, every step of the way, I basically will put it back into their hands and say, "You know what? Is this what you want? Make sure that if you have any reservations about anything that we sit down and we talk about it now," because you're absolutely right, each step builds on the previous step. And so it becomes very, very difficult if we get down to step number six and they decide to change something of that script.

Chris: Yeah. So let me ask you, how do your clients select voice-overs? Do you have a stable of people you use and you make a choice? Or you give them a choice from a limited number? Or how is that done?

Shelley: You know what? So far, the people that I've worked with, they've made the choice to do their own voice-over. So they can either do it. I'm willing to do it if they would like me to do it. Or I would direct them towards a company like voices.com, which is out of London, Ontario. And I think they're like a big database of voice-over talent. So they can use a third party if they want.

Chris: Right. I've only done this a little bit. Of course, I have a voice-over for the introduction to this podcast. I was surprised, actually, how reasonable a voice-over can be in terms of cost and the range and, really, the variation from one to another that really impacts the feeling of your video.

Shelley: It absolutely can. Yep, the right voice will do wonders for it. Yeah.

Chris: So you might listen to someone and think, "Well, they sound very professional. That's fine." But do they read the actual script and have it come out the way that you imagined it or that would resonate with your audience? I think that's worth doing.

Shelley: Lots to think about, yeah, for sure.

Chris: So, Shelley, I think you are on to something with a very different angle than what I typically see. And I mean that in absolutely, of course, the best possible way. You have a style and an approach and, really, a product that is different than what I typically see. So where can people go to learn more or get in touch with you?

Shelley: Sure. My website is called sciconic.com. So that's S-C-I-C-O-N-I-C dot com. You can reach me at info@sciconic.com. You can also hook up with me on LinkedIn, Shelley Sandiford on LinkedIn. And I'm also on Twitter. I'm not quite as active on Twitter but I'm @SciconicMedia on Twitter.

Chris: Excellent. I will put all of those in the show notes. And, Shelley, thanks so much for joining me today. I wish you a lot of success with what you're doing.

Shelley: Thanks you so much. Thanks for having me, Chris.

Chris: You're welcome.