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My Own Private SoTL Universe

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Interview with Leslie Schiff

Editor's Note: In the interview below, Leslie A. Schiff, professor in the Department of Microbiology, describes her teaching and the barriers she faces in turning her teaching experiments into scholarship. The interviewer is David Z. Wehner, assistant professor of English at Mount St. Mary's University.

David Z. Wehner: Tell me about your personal history with SoTL.

Leslie Schiff: I'm not even sure that I know what SoTL is. My personal history is that I have no background in teaching. I have a background in research, so I came here, got this job, and I have to teach. I was a Type A person who doesn't like to do a bad job at anything. So fear motivated me to take some CTL workshops. I thought, other people know how to do this, so I'll get some strategies. And I basically kept going to workshops; then the next thing I knew, I had been sucked into the vortex of this teaching thing.

So my interest comes out of wanting to do a good job at the part of my job that I was not at all trained to do.

D: What do you see as the impediments to doing SoTL?

L: How do you take a little classroom experiment and turn it into SoTL? That's one barrier. Because even though I do experiments for a living (I don't actually do them; I tell other people to do them), as a scientist there's a way of doing experiments. And SoTL seems to me to be experiments about teaching, and then getting some information from those, and then using that information and hopefully publishing it. But these are my own little personal experiments, so how do I take my personal experiments and turn that into the SoTL universe? I don't know how to get from here to there.

And the other barrier is time. If I already don't have enough time to do everything as well as I would like to, where am I going to carve out the intellectual space to think about my SoTL experiments?

D: Does this time crunch arise, in part, because SoTL doesn't count towards promotion and tenure? Does it count toward P & T in your department?

L: Does it count? It does count, but only if it's important in the eyes of your chair. Could my department survive and flourish if many of the faculty, instead of getting one more publication in the Journal of Molecular Whatever, were publishing wherever it is that SoTL people publish? That's not going to get me my next research grant. That's not going to raise my prominence in my field. So I don't think that, in the sciences, the culture is set up to promote SoTL as a worthwhile activity.

The institution wants to be one of the top three research institutions in the stratosphere, in the universe, and that requires getting federally-funded grant dollars on my side of the street. And if you're working on a SoTL publication, you're not working on the publication for the Journal of

Virology. So my chair couldn't survive as a chair and get his money from the medical school if many people in the department were writing SoTL papers and not writing their other papers. It's not an institutional problem; it's just the way things are.

But I'm thankful that I have a chair who recognizes what I can do for the institution. And the medical school, when I went up for promotion, said that the criteria for promotion from associate to full professor required national or international prominence on a certain scale. Now, do I meet those criteria with respect to my scientific discipline? Probably. But I've also won national teaching awards for teaching undergraduates. So the medical school had to be willing to say, "You know what, we are forward-thinking about this. This is okay. We view somebody who has documented their teaching scholarship as valuable to the institution."

D: I guess I was expecting you to say that it was really going to come down to whether the chair says "yes" or "no." But it sounds like you are saying it's about the people who make the grants.

L: The people who are issuing grants don't care about my teaching. Not at all. I don't know what scholarship looks like in other disciplines, but in my discipline, scholarship has to do with my federally-funded grant dollars, my publications, the beans that are counted when people decide whether I should get funded again.

So that's the SoTL barrier. It's a form of scholarship that I do or I dabble in because it feeds my soul and because it makes me a happier teacher and engages me; it makes me excited about teaching my class. If I can think, "What am I going to do this year?"...that excites the scientist in me because it is an experiment! What will I do? How will the students react? What will the outcomes be? And then what will I decide to do next? But I haven't taken it further and published anything. I still do these experiments for my own benefit. I am my own SoTL universe.

D: I wonder if SoTL is more daunting for someone in the hard sciences. It seems like the idea behind SoTL is that you are going to take the scientific method and apply it to the classroom. But if you're someone coming from the humanities, the scientific method doesn't necessarily have the sort of weight it does to someone in the hard sciences.

L: Yes, perhaps I might make it harder than it is. What would be a good controlled experiment? I know how to plan experiments in my own discipline. I don't know what it is to do a good controlled SoTL experiment. Or I don't have time for the lit review that I would need to do in order to publish something in SoTL. I don't have a command of the SoTL literature like I do in my own field that is going to give me the confidence to go forward.

So I think you're right. People in the sciences may make this harder than it is because of just the way we think and because there may be a discipline-related cultural divide that is greater. So I need to step over - to use a scientific phrase - the activation energy barrier. To decide to get out of your chair is harder than the movement once you're actually out of the chair and moving.

D: Tell me about some of your classroom experiments.

L: I teach a course on the biology of viruses, and many of my students are graduating seniors. I teach them in the spring of their senior year, so I face a motivational hurdle. I think students these days are so bombarded with information that their learning is very often a veneer. Their knowledge is very thin. They don't understand that to really learn something, to figure something out, to find the holes is hard. And it makes your brain hurt. And it's frankly unpleasant. Until you have the epiphany. And then it's like, oh wow, I just put all of that together.

I make my students work really hard. And one of the things that I have them do is concept maps. I give them a list of 10-12 concepts, and they need to draw the map. The richer the map is, the more accurate the links, the better the score. And the benefit is really in forcing the students to actually not be able to Google it; you can't Google a concept map. You have to think about the relationships between the entities. But they don't want to do that - because it's hard - because they have to generate the understanding themselves.

So here could be my experiment for next year: everything except the exams will be optional. You can choose. You want to do a concept map? I'll give you a good argument for why I assign them. I'll give you that, but then make your own choice, and we'll see. That would be a controlled experiment. We'd have those who choose not to do the concept maps because they're homework, and then there'd be those who will choose to do them. And we'd see how they do on their exams.

A couple of years ago, I did another experiment, and this one has stuck. I teach at 8:15 in the

morning, in January, with graduating seniors. I also like to do a lot of active things. That's a hard mix at any time, but I had one particularly bad teaching year when I had a very passive-aggressive student who didn't want to play my games. Who said to me, "I will be the best student in your class even if I never show up." So I thought, "Okay." I basically made them show up, and my life was miserable that year.

D: Because of this one student?

L: Because of this one student! And so I thought, okay, here's my experiment in response to this situation: participation is entirely optional. But you need to contract for it. So you can contract "plus participation" or you can contract "minus participation." And if you contract "minus participation," I promise you I won't care if you come to class or you do not come to class. There are different grading schemes for plus and minus. But if you say that you're going to come to class, I want you to tell me how you are going to participate. You don't need to raise your hand in class. You can participate online. You can form study groups. I want evidence that you are participating.

So I did that experiment the first year. And, surprise ... just as you might guess, the people who actively participated did better than the people who didn't participate! Now, there were outliers. There were some participants who did poorly, and there were some non-participants who did very well.

But the data were hugely clear. And it was a cohort where I could really see the participators participating. They took the challenge. They said, "Dr. Schiff, can we give a 5-minute presentation at the beginning of class on x?" They were figuring out ways to engage with the material and with their peers. It was a great year. The people who were there really cared. I loved being in that classroom.

So the next year I presented those data on the first day of class, and I told students they would have a choice. And virtually everybody picked to be a participator. But they actually didn't really participate. So that year the data didn't look so good. It turns out if you say you are going to participate and you don't, there is no effect. There is no positive effect for choosing the option if you don't actually do the work.

D: Would you say that all of your SoTL experiments stem from this one reluctant student?

L: No. I was teaching GRAD 8101 (Preparing Future Faculty), and I learned more from teaching that class than from anything else. And I thought, hmm, grading contracts ... I could say, you want to participate or you do not want to participate. Then I got that great data where the participators did better and it was like, cool, I could actually do these experiments and learn something about what helps students learn better.

Here's another experiment. Students in my class have taken a large number of scientific prerequisites, but I know that most of that stuff went in one ear and out the other. So I give them, on the second day of class, a quiz that tests prerequisite knowledge. I kind of know where they are. Then this year it occurred to me to give that test again at the end. And miraculously what was a broad scatter plot at the beginning of the semester was less scattered at the end. I didn't suck information out of their brains! The fact that people did better said to me that I was contextualizing a lot of the information that they had in these other courses. That made me happy.

D: So you're doing these experiments in the classroom. You feel that you're learning stuff about the classroom, but you're not publishing SoTL. Do you think that you ever will publish?

L: I would like to. Because I've reached a stage where I don't have to worry about tenure any more. And maybe I can get some help. I think if we could partner with people who do SoTL and publish SoTL that would be really helpful. A sort of mentorship. Because I don't even know what it would take to put together a SoTL piece. How big does it have to be? What's the scope of a SoTL piece? I don't know.

D: If you were to do a SoTL experiment, if you were to conduct a study, what would you think about Transform shadowing you and seeing the whole process of doing an experiment? Going from beginning of an experiment to the end.

L: Sure. That's the help that I need because I don't know how to do this. I do it because that's how I get my jollies.

Yeah, I think it would be fun to have Transform shadow me. It might lower my activation energy barrier.

Leslie A. Schiff is Morse-Alumni Distinguished Teaching Professor in the Department of Microbiology and currently chairs the Council on Liberal Education. David Z. Wehner is an assistant professor of English at Mount St. Mary's University.

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