Hello, and welcome to Dead Ideas in Teaching and Learning, a higher education podcast from The Center for Teaching and Learning at Columbia. I'm Catherine Ross, the center's executive director. Let's get started. Today I will be chatting with Yarin Reindorp, a junior in the school of general studies, and Yarin's former organic chemistry instructor, Dr. Karen Phillips. As a quick reminder for our listeners, in this podcast series, we are exploring dead ideas in teaching and learning. In other words, ideas that are widely believed, though not true, and that drive many systems and behaviors in connection to teaching, exercising what Diane the tyranny of dead ideas.

Dr. Phillips was a senior lecturer in the discipline of chemistry and director of undergraduate studies at Columbia University. During her five and a half years at Columbia, she taught the large intro organic chemistry courses, one and two, and a seminar for graduating seniors. Prior to coming to Columbia, Karen received The Faculty Innovations in Teaching with Technology Award and The Presidential Award for Excellence in Teaching at Hunter College.

Yarin Reindorp is a junior majoring in neuroscience and behavior. Yarin is also one of our undergraduate student consultants in the CTL, The Students as Pedagogical Partners Initiative. Through that initiative, Yarin reflects on her experiences as a learner and shares her insights with the teaching community. Welcome to our Dead Ideas Podcast, Karen and Yarin. It is such a pleasure to have you as guests.

It's wonderful to be here.

Thank you. Happy to be here.

I want to start as usual by setting the stage. As mentioned in the bios, Yarin is one of our CTL Students as Pedagogical Partners, so she thinks a lot about the student experience in our classrooms at Columbia. She's also very thoughtful about her own learning processes, and she had engaged Dr. Phillips in conversations about what made the organic chemistry classes so
unique. When I learned about these conversations that they were having, sharing and comparing the student and the teacher perspectives, I immediately invited them to join me on The Dead Ideas Podcast. In those conversations that they were having together, they identified three sort of major dead ideas that are addressed in the way that Dr. Phillips teaches the organic chemistry class.

Catherine Ross (02:55):
So they talked about the idea of passive learners versus the experience of empowered learners in the classroom, especially in large classrooms where passive learning is often the default mode. They also talked about the interplay between competition and collaboration in learning, and relatedly, the idea of rigor that is connected to that, and also about supporting every learner, creating equity in the learning environment, versus a one size fits all method of teaching. So with that background, we can get started. And we'll take each of these dead ideas sort of one at a time. So we'll start with the conversation that they've had about empowering students. Yarin, you shared with me that you experienced a level of empowerment in Professor Phillips' class that was unlike your experience in other classes. Could you tell us about that?

Yarin Reindorp (04:04):
Yeah. Definitely. I think that myself and a lot of other students came to this subject, organic chemistry, with a certain degree of fear. And one of my strongest first memories of the class was actually Professor Phillips acknowledging that fear and addressing that fear, acknowledging the fact that the concepts that we're going to learn are difficult, that the process in learning the language of organic chemistry is complicated, that we're going to encounter foreign terms. And at times, it's going to be very challenging. And I think when I contrast that to my experience in some of my other classes, in which sometimes I hear statements such as, this is easy, or this should be intuitive, I felt that there was none of that in this class. And the opposite, I strongly remember that feeling of my fear being acknowledged, and I think it made my mental preparedness almost, for what's about to come, a little better.

Yarin Reindorp (05:04):
And beyond that, I think that one of the things that stand out in my experience in Professor Phillips' class is the idea of just feeling like I'm being seen as an individual. I have multiple examples of that taking place throughout the course of the year, anything from, I know that's going to sound minor, but simply knowing my name. Knowing that my professor of a 200 student class almost, knows my name, and beyond that, knows how to pronounce it correctly, and uses my name when she addresses me and answers my questions. Something about that felt personal in such a large class, and that was very motivating in a lot of ways. I have more kind of even deeper examples.

Yarin Reindorp (05:50):
In my first semester in organic chemistry, I had some difficulties that Professor Phillips was aware of, and my second semester, I started off better. I did better on my first exam than all of the previous ones. And I got that exam back with a note on it from Professor Phillips, a very
An encouraging note, telling me that she is seeing my effort, and she's seeing my improvement in performance. And it was very encouraging to know that again, my professor of a class of 200 other peers almost, was able to look into my case specifically and put something so encouraging on my exam. Beyond that, things like remembering a question I asked in office hours, and two weeks later, when another student asked that in the classroom, she was able to say, "Yes, actually, Yarin asked me that question two weeks ago, and it was a very good question because one, two, three."

Yarin Reindorp (06:46):

Little moments like that, when I knew you're being remembered, when you know you're being acknowledged in that setting of a very challenging class, that goes a long way, and it went a long way for me. So these are kind of the little things that made all the difference for me. I call them little, but really, they are huge. And I think that they all contributed to building my confidence in my work, both in the class and beyond. In the experience of an undergraduate education, I think that these things have a huge meaning and impact, and they can stay with us for years. And these are things that I left the class, left the year being Professor Phillips' student, being very appreciative of things that I'm going to have a hard time forgetting, and they're going to keep being with me as I make my progress in things that have to do with organic chemistry and beyond.

Catherine Ross (07:40):

Wow, that's really powerful. And I liked the one thing you said. Well, there's a couple things that you said that I think were particularly powerful. You said these are little things. I doubt any instructor listening to this podcast would think learning the names of almost 200 students is a little thing. But I get what you mean by that, and I think that pushes against another dead idea, which is that in order to do these things that empower learning, and motivate learners, you have to make big, big changes. And yet, what you're saying is these were relatively small scale kind of interventions that made you feel seen and motivated. So I really appreciate that was sort of another dead idea that you unpacked without even knowing it.

Catherine Ross (08:45):

So Karen, I'm wondering if you would like to respond to Yarin's comments and maybe share with us if you have more strategies you want to share. Please do that. But also, what really is interesting to me is why it's important for you to do these things that Yarin mentioned. And what motivated you to do this? Where did these ideas come from?

Karen Phillips (09:11):

Well, if I think back, I think that the genesis of these ideas may have come from my own background growing up in Jamaica, and feeling valued for the individual that I am, and for the family that I came from. Right? And so the Jamaican culture at the time when I was growing up there has a very different way of looking at social structures, I believe. Right? And so opportunities would come my way because somebody knew my parents. And it instilled this
desire to always make a good impression, that I still carry with me and value tremendously. Right?

Karen Phillips (10:07):
My first, this translated for me into my first college experiences in the United States, where at my community college where I started off my undergraduate education here, I, through an unusual set of circumstances, had my first opportunity to teach. So I had this opportunity to teach while I was still earning my associate's degree, not even an undergraduate degree at that time. And the fact that the head of the chemistry department and other instructors felt that confidence in me to allow me to have that opportunity, that did so much for my self esteem as a learner. And again, going back to this point of feeling seen as an individual, that was really important for me.

Karen Phillips (11:09):
Cut now to going into graduate school and feeling, for me, graduate school was an unknown. And I'm a first generation immigrant college student, woman of color, and I really felt out of place. And I felt this paralyzing fear, and didn't feel as if I could talk to anybody about it because my peers in my year in graduate school came from institutions similar to Columbia, so they had a lot of research experience, Ivy League educations in most cases. And so it was difficult to admit that I felt lost because everybody else seemed to have it together. And so for me, as I transitioned into teaching, I felt that this just acknowledging that students might feel a similar fear to what I experienced, I knew the power in that to diminish that fear, especially when you're talking about a subject like organic chemistry, which everyone comes into with trepidation, feeling like it's going to be the thing that could break their career ambitions. Right?

Karen Phillips (12:43):
And so again, for me, it was a natural segue and something that I've been doing since I began teaching. And I also find myself having this unusual response, which is that whenever I feel as if my individuality is diminished outside of the classroom, I want to extend that to students even more. And so I find that ways to make students feel empowered and ways to make them feel seen as an individual is even more critical to me in situations where maybe I don't feel like I'm getting the same.

Catherine Ross (13:31):
That's incredible, your ability to translate your own struggles in the academy into practices that benefit your students in that kind of extraordinary way. Thank you so much for sharing that story. But I am quite sure that some of our listeners are like, "So how does she learn those names?" Do you have some kind of special technique?

Karen Phillips (14:00):
Not that I feel I can describe. It's something that I think about all the time and I feel as if, gosh, if ever I think that I can't do that anymore, I'm not sure what will happen. But it's something that I just pay attention, and I connect what students tell me with their names.
Catherine Ross (14:25):
That's great advice. And also, you have them for two consecutive semesters, which I'm sure helps as well. I don't know that, that's the case in a lot of institutions, so I think that probably helps a lot. But it's your effort really that is what makes it happen, so I want to acknowledge that.

Karen Phillips (14:45):
Thank you.

Catherine Ross (14:48):
All right. So let's move into our conversation about the role of competition because science classes typically are viewed as being very competitive spaces with very limited opportunities for collaboration. It's often really viewed as sort of the survival of the fittest. Right? And a lot of emphasis is placed on independent work, rather than working collaboratively. But that's not according to what Yarin has told us, that's not the case in your courses. Even as rigorous as it is, you encourage students to work together. So what do you see changing when students work collaboratively rather than competing individually?

Karen Phillips (15:41):
Well, for me, this is also another deliberate choice to help alleviate that fear that we mentioned before. Right? So knowing that you're in a shared experience with others, rather than just feeling isolated, as I might have felt at one time. I recognize how important that could be in making students feel more at home in such a challenging classroom and subject. Right? And so again, this kind of came out of my own experiences teaching for the first few years, where I taught just the first semester organic chemistry course for the first three semesters. And a lot of students wanted to continue with me, but they would have had to wait for a couple of years to do that.

Karen Phillips (16:38):
So I got the department's permission at Hunter to do group tutoring sessions for some of my students. And I would prepare this set of workshop questions for them, have them discuss the questions in groups, and then present their solutions in this small group setting. And just observing what this did for that small group of students made it just felt like, wow, this has the power to transform so much. And those students, that group of students, and of course, they did really well in organic chemistry too, but it also seemed to have this lingering impact on the rest of their time as undergraduates, and their willingness to help each other extended far beyond my class.

Karen Phillips (17:39):
Just in terms of kind of theorizing this in relation to rigor, once I started to do this model of using workshops in the class, and the workshops have two different components, one is to have small group discussions about the questions, and then the second is for representatives of
those groups to stand in front of the class and present their solutions and the rationale behind them. For me, I assume you would be familiar with the term, but this sets up what I would refer to as a zone of proximal development, a cognitive space.

Catherine Ross (18:25):
Right?

Karen Phillips (18:27):
Yeah, a cognitive space just outside of the normal reach of students in that area. But this forces them, this allows them to develop proficiency with the subject at a faster rate than if they were just sitting there passively taking notes and responding to exam questions. Right? And so again, allowing them also to freely choose who was going to be in their discussion groups, I think that allows them to feel a sense of agency. That's also critical to their success. And again, I see these things as a way that for me has transformed what I have observed in terms of the culture of undergraduate science learning, going from, you know, I've known students who refuse to collaborate and really want to just do things alone, but the degree to which, if I listen to a group of my students talking about the subject, the degree to which they've seemed far in advance of any other group of students really gave me continued encouragement that this was the right thing to do.

Catherine Ross (19:58):
Wow. So you've been kind of doing this informal research as well while you're trying these things out, and I think people listening to this podcast are probably aware that there is a huge amount of research that this is indeed the fact, so I love that, that you were able to see that in your own students.

Karen Phillips (20:21):
And just if I could add just one thing. The presentation of solutions to the rest of the class, that's a part of this performance that I also believe enhances learning, so my workshop model is referred to as performance enhanced interactive learning because it's this performance piece that sets it apart, but that I think creates this bridge to higher and deeper learning more quickly than other methods.

Catherine Ross (20:57):
Yes, because to teach someone else something forces you to go much deeper than you might go just for your own understanding, so you are exactly on the money on that one. Yarin, would you like to share with us how you experienced that in Professor Phillips' class and how it impacted your learning?

Yarin Reindorp (21:21):
Yes, absolutely. I think that those opportunities for collaboration and the general approach and encouragement for collaboration in the class enhanced my learning on multiple different levels.
I think the biggest thing it did really, it's no secret that science classes at an institution like ours, at our level, are competitive. And competition will seep into the classroom in some way or another. But at the end of the day, it is when my professor stands in front of the class and talks about collaboration and acts on collaboration that really helps to enhance our learning. And beyond that, to me it felt like it resembled the real world in a lot of ways. A lot of us are sitting in that classroom hoping to be scientists, researchers, doctors, those are all professions that work collaboratively. They work in teams. We need to learn to be those team players in that professional setup.

Yarin Reindorp (22:29):
And so working collaboratively in the class kind of sets the ground for that in a lot of ways. And so these workshops, for example, was one of the most unique experiences I had in a science class, one, because they truly, truly allowed us to get practice and to get our hands on as much as we could on what we were learning in class, but really do that together and work on problem solving together, use each other's ways of problem solving to enhance our own, to have the opportunity to present our ways of problems solving, and learn that in multiple ways. Beyond that, we were encouraged to support each other. We didn't just stand there and watch someone present a solution. Professor Phillips would say, "Let's clap for that person. Let's encourage them because this is a big thing for any student at the first weeks or the last weeks of a year of organic chemistry, to be standing in front of such a large classroom and presenting a solution to a problem at a risk of being wrong or making a mistake."

Yarin Reindorp (23:31):
And I think that in and of itself made us ... It has such a strong impact for me in my experience in science classrooms because it made us more vulnerable with each other. The fact that we had to stand there, tell the class how we worked on a problem at the risk of being wrong, and the fact that we were encouraged to work together and make decisions together, share each other's thought process with each other, it made us more open to not just working together, but to admitting that we're struggling, to admitting that we have a problem. I could more easily have conversations with my peers in this class that when something along the lines of, "Hey, yo, I really didn't understand today's lecture. Did you?" Or there's a concept that I have a really hard time with. Do you mind? Could we meet up sometime to go over this? Because it sounds like you know what you're talking about.

Yarin Reindorp (24:27):
So we had an easier time leaning on one another, and so beyond the encouragement and the real concrete opportunities for collaboration, like workshops, like study groups, we had kind of ... We were able to support each other in more ways. And this is another point that I will add here about study groups. I think the term study groups is being thrown around a lot. I hear it in a lot of my classes. Study groups are always encouraged. But I think Professor Phillips took that an extra step forward by not just encouraging study groups, but also providing resources for study groups, providing guidelines on the class website with suggestions, what to do with a study group.
Yarin Reindorp (25:11):
And so we were encouraged to work together, but there were also actions taken to back that up. And we were given the opportunities to work together, to work collaboratively. And I think that must've had a very strong impact on a lot of us in how we see each other and how we extend that collaborative-ness to other classes that we were taking together at the same time, to other classes that we'll be taking in the future. And so that was a very unusual experience in science classes and a very positive one.

Catherine Ross (25:47):
That's amazing. And the example is so powerful because it acknowledges that just telling students to get in groups, or to have a study group, is rarely going to result in the kind of learning that you experience, Yarin, because in order to do that successfully, people have to learn how to do it. And someone has to tell them how to do it. And that's often not acknowledged. Right? It's just this sort of assumption, well, if they just get in study groups, they'll be fine. It's like using group work, when people think, "Well, if I just put them in groups, they'll know what to do." So I think that's a really powerful example. And the other thing you were talking about, the vulnerability, and I think that pushes against a really powerful force in higher ed that Karen referenced sort of implicitly earlier, this notion of perfection, and that you always have to pretend like you know, even if you don't know. That no one, whether you're an instructor or a student, saying you don't know something is sort of verboten, you shouldn't do that. So I think that's another dead idea victim right there that we can set aside because your example is so compelling of how this worked.

Catherine Ross (27:19):
And I think that brings us right into the issue of equity because by doing these things, supporting students in this way, Karen, it goes right to how you've created this equitable learning opportunities for all of your students in this large class setting, and also what you've explained about how these sessions are run speaks to the rigor, how you build in ways to make sure that their learning is rigorous. But I also just thought maybe you could give us any other thoughts about how you can provide your students with this kind of support, given all the different kinds of backgrounds that show up in our classrooms, and how you always walk that balancing beam with rigor and ensuring they're prepared for future courses, but also support, the necessary support, not viewing that as coddling in any way. But it's the support they need to make progress. That was a big question. Sorry. Take whatever part you want.

Karen Phillips (28:33):
Yeah. So going back to my own experiences again, and feeling under prepared at certain points of my educational journey, I wanted to make sure that my students left my class feeling prepared for whatever was going to come next for them, whether that be graduate school, the next biochemistry class, the MCAT, any of those things that students usually go on to. I wanted to be sure that I had prepared them as well as I could for those next steps, so they wouldn't have the same kind of fear going into those next steps that I experienced.
Karen Phillips (29:22):

Again, going back to my own reality as a woman of color in the sciences, and a first generation college student, it felt really important to make sure that I was equipping my students to the best of my ability. I remember one point, a faculty member somewhere saying to me, suggesting that I must be dumbing the subject down because my failure rates seemed lower than for other classes. Right? So I wanted to make sure that no one could ever make that assumption about my students, and that I would put, again, put them up against anybody’s students in any kind of competitive arena, feeling certain that they would be able to demonstrate their knowledge.

Karen Phillips (30:22):

And again, these workshops and the performances I think help with all of that because they provide the safe space for students to be able to test out their understanding with each other, without the worry that I'm doing this for a grade. And then if they're playing the role of the teacher for a few minutes each week, they're gaining so much confidence from that experience, and even if they weren't the ones presenting, being able to see their peers demonstrate that, I think makes it so that the chance to be able to show that you can do it too becomes much more within their reach. And so again, I felt that these, I could see that these things that I employed were deepening students' understanding, deepening their connections with the subject, and also deepening their desire to do well for themselves. And it just felt like it would be a crime not to do it.

Catherine Ross (31:42):

I love that.

Karen Phillips (31:45):

Because it was so obviously good.

Catherine Ross (31:47):

Oh, I love that, a crime not to do it. There are, in teaching, crimes you can commit by doing it, and then there are also crimes you commit by not doing it. And I'm so glad you said that. Well, I think we have a pretty good idea now what keeps you inspired and what motivates you to do this work to change teaching in higher ed. But I want to give you a chance if there's anything else you would like to mention about how you keep going when you have people saying things to you like your classes must not be rigorous because you’re not failing enough students. How do you just keep going in the face of that?

Karen Phillips (32:38):

Well, something that's been important to me all along and that I think grows more important with each day that I teach is to be able to do it authentically. I love teaching. That's been clear to me from the very beginning. But to be able to be my authentic self in the classroom is critical for me. But I'm recognizing through things that I've shared with students, how much it means
to them when, in a little written biography, I tell them about my experiences where I had times when I failed and had to drop out of college. Right? I tell them about experiences being threatened with deportation at a certain point in my undergraduate life. And it's every year, I just find it so remarkable how many students will come to me and tell me that those little things touched their lives, or they related to these experiences, and that they couldn't believe that a professor was being as vulnerable and as forthcoming with information about themselves as I was.

Karen Phillips (34:07):
And things like this always come with risk because when you are vulnerable in this kind of situation, you're relinquishing some power. And you're setting yourself up for the possibility that somebody might use that vulnerability in a way that's not constructive. But again, the rewards for that risk have always been so apparent to me, that I once I started to do these things, it just seemed like I can't stop. It would be like withholding, giving a placebo, knowing that the patient was going to die if they didn't get the treatment. So yeah, so it's been really critical for me because I see reflected in students' eyes and comments, and their performance, how important these things are.

Catherine Ross (35:10):
That is extraordinary. A lot of people think of teaching as a kind of just a transaction. But in fact, research tells us that it's extraordinarily relational. And what you have done is turned that relationship building into an art form in your teaching, so that is just so extraordinary. Thank you so much, Karen, for that. Yarin, would you like to share why you feel so passionate about talking with ... I see now why you feel so passionate about talking with Dr. Phillips. But why are you so passionate about changing higher ed teaching and learning for others?

Yarin Reindorp (36:00):
Yeah. I think that from the perspective of a student, I think it is very easy for us to critique our instructors and to find moments and approaches that aren't conducive to us. But I think that the positive moments and the positive approaches, those that leave a positive mark, that have a positive impact, are worth celebrating. And often, we don't do that enough. We don't mention them enough. We don't pay enough attention to them. And I think that if we're thinking about change in higher education, perhaps having those conversations can take us farther than just lingering with the negative aspects.

Yarin Reindorp (36:50):
And so I had an experience for an entire year, a very, very positive experience in such a difficult science class. It was a professional experience. It was a personal experience. And it was a very impactful one. And so I think that just because of the positive experience that I had, Professor Phillips deserved to hear and know these things, and I think that the impact that it had on a lot of other students can be resonated through our conversations about this. And with that, I was also fortunate enough to have my own teaching experiences. And I know how hard it is. I know that it is challenging. And I know that being scrutinized as the professor, as the teacher, as the
instructor, it's not an easy experience. But I also have seen and experienced now the beautiful changes that happen when we bring some of these positive approaches into the classroom, when we're able to give an individual the experience and the feeling of being seen and being encouraged, and building up their confidence in what they're doing.

Yarin Reindorp (38:07):
And just beyond all of that, the things that we talked about today, these are things that matter to me a lot. These are things that have shaped my education here so far, that will continue to shape my education as I move forward with it. And I think we need to continue talking about them, need to continue pushing them forward, so that more of us can have an equitable and a positive education experience that will build us up for the future with our full potential.

Catherine Ross (38:39):
Wow. I can't thank you enough, Karen and Yarin, for taking time to talk with me today, and for sharing all of these experiences and thoughts, as well as for your commitment to student learning, both of you, so committed in making science classrooms more equitable spaces. This has just been wonderful. Thank you.

Karen Phillips (39:10):
Thank you for having us.

Yarin Reindorp (39:11):
Thank you very much.

Catherine Ross (39:15):
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