Episode: Teaching Philosophies and How We See AI
Series: AI in the Classroom
Produced by: Digital Futures Institute, Teachers College, Columbia University
Featuring: Peter Nilsson: a former teacher, a consultant on schooling and AI, a composer, and co-author of Irreplaceable: How AI Changes Everything (and Nothing) in Teaching and Learning

Peter Nilsson:
I saw a particular post from one engineer who said, "This is so amazing and I feel kind of depressed. I've spent 20 years honing my craft to be able to do this. And now basically everything that I have learned how to do is no longer necessary."

My name is Peter Nilsson. I'm the co-author of Irreplaceable: How AI Changes Everything and Nothing in Teaching and Learning. And I'm also a composer working on a musical about schools.

In the introduction to our book, one of the things that we talk about is the research that's been around for about 50 years or so on meta orientations towards curriculum. And over the last 50 years, a series of researchers every decade or so have updated this research to identify and track and measure the perceptions that we have about the purpose of curriculum or the purpose of school more generally.

We simplified in the book by calling them teaching philosophies. And the four that track the most through the research that we identify are one, an academic meta orientation towards curriculum, which is one where we see school as serving the purpose of developing intellectual skills. The second is a humanist approach to curriculum, which is the purpose of school is to deepen our understanding of ourselves as human individuals. The third is a social orientation towards school, which is we see school as serving a purpose towards engaging political social issues, but also civic engagement and participation in juries and voting. And then the fourth is pragmatic, which is the purpose of education is somewhat transactional. It is to credential people and prepare them for the workplace. So we think about those four meta orientations towards curriculum or those four teaching philosophies: academic, humanist, social, and pragmatic.

And what I think my co-author and I like to do is we try on all those different hats at different times. And in the context of artificial intelligence, what we have found as we have been talking with schools and with teachers is that if we are coming at AI predominantly from one of those perspectives, then we may see certain opportunities or certain risks more readily. If we're coming at it from a pragmatic perspective, that might often manifest as saying students need to be prepared for the workplace. So AI is an essential tool for being prepared for the workplace. If we're coming at it from an academic perspective, we often hear it first in the context of academic risk, which is that it could shortcut learning. This is certainly something we're hearing a lot in education spaces. But people from an academic perspective may also say students have more access to knowledge now. They have more opportunities for rigorous practice through

automated feedback, which can help their intellectual skills more.

So is my approach more or less different than others? I don't really know, but I do know that thinking about how we approach artificial intelligence through the lens of these different mindsets will help inform the discussions that we have with our colleagues and therefore diffuse, we find, some of the tensions that exist right now in the education community.

I pulled up Claude code, said, "Create a prototype that enables students to check in at different dormitories to do A, B, and C." And in two and a half minutes, it was prototyped and put and shown to the community. That kind of rapid prototype in the software engineering community is extraordinary and creating the capacity to iterate rapidly, to prototype rapidly. And at the same time in that software engineering community, I saw a particular post from one engineer who said, "This is so amazing and I feel kind of depressed. I've spent 20 years honing my craft to be able to do this. And now basically everything that I have learned how to do is no longer necessary."

And I think that that kind of grieving exists in the education community as well, where there are teachers who have seen that they have spent decades, years, if not decades, teaching students certain crafts, the craft of writing, the craft of certain kinds of thinking and synthesis and thought. And those are still valuable and now they have a tool that can do parts of that for them and support certain kinds of that for them, which doesn't mean that they should not learn to write, nor that they should not learn the active synthesis, but rather as they are maturing as students, they have different tools at their disposal.

But AI has come unbidden. It arrived. It came into schools. We didn't ask for it. It's here. It's like social media and cell phones 20 years ago. And as a result of that, we respond to it differently than the typical path that we do in schools. And because it came suddenly, it is shocking and that shock is part of what has caused that grief.

And so do I see many schools that are formally thinking about grief the way that we do when we think about a tragedy happening in a community? No, I don't see much of that. But what I do see and what is happening is schools taking the time to ensure that people in the community have a voice.

I remember an article from maybe 10 years ago titled Teaching Isn't Rocket Science, It's Harder. And that was written by someone who had been a rocket scientist and then went into teaching and described the complex variable world that education is. And that's just the classroom itself. The job is already something that is so much more complex than people recognize. We think of it as invisible labor, which is itself an academic area of study in society, and teaching is itself a kind of invisible labor. And within education, all the things that teachers do outside of the classroom is a kind of invisible labor that most people aren't aware of.

Finding the right technology tools is certainly a challenge within that broad mix. And yet we

know that technology can be a very productive tool to remove and relieve some of that burden that teachers have to manage. But that depends on the quality of the tool. That depends on the culture that is built around it for sure.

A good example of this from another industry is in healthcare, which is another human-centric field that has domain knowledge the same way educators have domain knowledge and it involves a relationship between a doctor and patients like a teacher and students. At a recent doctor's appointment that I had, the doctor who knew I was working on a book in education, she said, "Do you mind if I use this tool?" And I said, "Absolutely, please." And so she set her phone down on the table between us as we were having our conversation, asked me about my health, asked me about symptoms, whatever else it might be. We had the full conversation. And then at the end of the appointment, we then turned to the desktop machine next to us where there was a summary of just the medical components of our conversation that would go in my file as a record of this appointment. She had me read through it to see if it was accurate. I said it was accurate and that was it.

Two things that came out of that. One, she and I were able to have a more human uninterrupted conversation because she was not facing the machine typing. She was talking to me and she did not have to pause to transcribe it. Two, research has already shown that that relieves stress, workload stress for physicians. The research has already borne that out. So that kind of experience where certain administrative tasks are taken by the technology can and has been shown to measurably improve people's experience in different sectors. There's a lot more money pouring into medicine than there is in education, but we should be pouring that same kind of funds obviously into education to relieve this kind of administrative work for teachers.

What we've seen technology do is move the needle a little bit in terms of what students can do on their own. We have learned time and time again that students are not autonomous learners. All students are not autonomous learners. We saw this. Khan Academy did not suddenly make it so that every student could learn material on their own in a flipped classroom setting, but it did create opportunities for more students to do that. edX and Coursera, when they launched 15 years ago, close to 15 years ago, this was the end of college. Everybody would be able to pursue it in their own self-directed learning online. What we find is that 5% of people persist in their courses on massively open online courses.

AI is the next step in a series of steps that will enable more students to be able to learn more on their own outside of class. It will do that because it is engaging us in a more human way and with more sophisticated responsive approaches than we have seen in other approaches before.

But that said, even if that is the case, what we also need to remember is that the purpose of school is not knowledge acquisition, nor is it necessarily skill acquisition on our own. We need to bring that knowledge into conversation with people in the classroom. We need to find out what knowledge we have acquired, what skills we have acquired, we need to find out what meaning it has in the context of other people. We live our lives in the context of other people. Even a

pragmatic approach to education recognizes that people enter workplaces that work with other people or work for other people and that how what we learn interacts with those other people is an essential part of what we need to do.

So can more of school move away from knowledge acquisition, from knowledge transfer, from that kind of learning and towards meaning making together? Yes, the needle I believe will move, but it's not going to turn into Vulcan learning pods in Star Trek, nor should it turn into this kind of environment where students are learning on their own by themselves.

We have seen technology transform education in the past. 2,000 years ago, writing was a threat to the way that people were learning at the time. Socrates famously refused to write things down because he said that writing would corrupt our memory. Thankfully, Plato wrote down what Socrates said so that we could have his other thoughts here today. But that changed our relationship to what we were learning. The writing changed our relationship to what we are learning today. The printing press did the same thing. Technologies over time have done this.

And yet back in Socrates' time, they were practicing critical thinking. They were practicing communication skills, creative approaches to problem solving. Today we are focused on critical thinking. We're focused in creativity. Tomorrow with artificial intelligence, we will be doing the same thing.

Before the internet, we were asking students to evaluate their sources. When Wikipedia and the internet arrived, we asked them to evaluate their digital sources. With AI here, we are asking students to evaluate their AI sources. They are slightly different skills each time to be able to do that, but those capacities remain constant. Nothing is changing in that area. Similarly, the things that we teach at the very heart of schools, character traits, participation, good, healthy participation in society, those things don't change.