Speaker 1: The Missouri State Journal. A weekly program keeping you in touch with Missouri State University.

Nicki Donnelson: A teacher's job is complex. Not only does the teacher need to communicate subject matter clearly, he or she must do so in a manner that keeps attention. He must minimize distractions, answer questions as they arise, provoke students' critical thinking skills and perhaps most importantly, notice. I'm Nicki Donnelson. Today on the Missouri State Journal, my guest is Dr. Mandy Benedict-Chambers. She is an Associate Professor of Childhood Education and Family Studies at Missouri State University. She is also the Coordinator of the Elementary Education Graduate Program. One of her primary interests is in teacher noticing. She explains.

Dr. Chambers: Teacher noticing is specialized. Teachers notice particular things in certain ways. And so, for instance, when they're in the classroom they have to really think about what a child says and what is important about that idea, and how to modify their instruction in terms of what that child is saying to better support that student's learning.

Nicki Donnelson: Benedict-Chambers shared a story about a fifth grade science teacher who was teaching a lesson about sight and light. She noticed that many of her students were thinking that in order to see, a person must have light shining out of their eyes. Others in the class believed that light must be shining into the eyes in order to see. At the same time, other students were discussing how cat's eyes glowed and wondered how that should factor into their assumptions about sight. The teacher then modified her lesson to teach them about the process.

Dr. Chambers: So what this fifth grade teacher did that was pretty cool was she thought really carefully about her students' ideas after asking these questions and she was able to design some investigations. She came up with this shoe box model. You put a lid on a shoe box and you put a little frozen doll or something inside and you have two holes. And so one hole is where the flashlight goes and one holes where your eye goes. And you can see through that model how the light hits the object and then reflects into your eye versus the light coming out of your eye or the light having to be shined into your eye. And so it's just really interesting thinking about as a researcher and as a teacher educator working with elementary teachers, how they notice and the importance of noticing, when as adults, I think we just notice every day and we don't think about the specialty of teacher noticing.

Nicki Donnelson: For some of her research projects and also in some of her graduate students classrooms, Benedict-Chambers has been implementing the use of video technology. It lets Mandy review the teacher's performance but it also allows the teacher to go back and review the day, slow down a lesson, take in parts of the classroom that perhaps were not as vocal during discussion and ultimately notice how the students were taking in the information.

Dr. Chambers: And I had this third grade teacher watching a video of herself teaching a lesson about condensation. When she was watching the video, she heard them talking about how this cold can of Coke was sweating and another group of students, they were talking about how the water was seeping out through the can, kind of leaking through the holes in the side of the can. So she stopped the video and she was like, "Wow, this is so cool. These ideas are really interesting and really common for kids to be thinking about in terms of condensation." The next day, she was able to go back into her classroom and kind of probe those students' ideas and the kids were really passionate about this idea and she was like, "Wow, this is so interesting. What can I do as a science teacher to support their thinking?"

Dr. Chambers: And so she developed this little investigation where she brought back these cold Coke cans and she gave students just white paper towels and said, "Okay, so you think that the soda is seeping out through the can. Let's get some evidence to support your thinking." And so the students would wipe the side of the cold Coke can and would say that it's clear, there's no brown soda on the paper towel and it would just help them to develop some evidence that it's actually the water vapor condensing on the side of the Coke can. So that video just helps the teachers to think about what are their students thinking? How can I leverage those ideas and develop some investigations to further support their sense making?

Nicki Donnelson: Everyone has an experience in education, whether it is in public, private, or homeschooled. The classroom or modalities might be different, but it is a common life experience. However, Benedict-Chambers says that in order for students to be reached, for them to actually learn, teachers must be well-equipped for all the factors that affect the classroom.

Dr. Chambers: I know as a child, I practiced being a teacher. I would teach my stuffed animals and I was like, "Hey, I can be a teacher. I see this happening. I observe it." And I think it's just really important for us to realize that teaching is really complex, it's very specialized, especially at the noticing that I talked about and how hard it is to really focus on what are our kids thinking, how can we make connections between what our students' ideas are to the content that we're teaching, and how can we build on that and leverage that and modify and improve our practice? But I think it's also an honor to really work with some of the students in our graduate program and to see how they're doing this in their classrooms and to learn from them and to partner with them. So I think that's been a real joy.

Nicki Donnelson: That was Dr. Mandy Benedict-Chambers. I'm Nicki Donnelson for the Missouri State Journal.

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