

MIA BULJAN: So his is really -- when you talk about this, this is the culture of the math class, which is that all of the explanations are like, embedded in this shared ...

ERIKA ISOMURA: Right.

MIA BULJAN: ... experience, so that you have this language that you're talking to each other.

ERIKA ISOMURA: And it came up, actually, a few weeks ago. Somebody said something like, "Wait a minute. This is just like something that we did in October." And I said, "Yes, because I told you in October, we're prepping for the stuff we do in the spring, and everything comes back. There's nothing done in isolation." It was funny because several of the kids were like, "Yeah. That's kind of true," and I said, "Yeah. That is the way this is meant to be. It's not just random things I throw out at you."

MIA BULJAN: It's not kind of true. It is true.

ERIKA ISOMURA: Yeah, so they were very cute, because they finally, like -- they're very cool at this point of the year. They have seen, like, "Oh, that's why we did ... Oh, I get it."

MIA BULJAN: Like it happened enough times.

ERIKA ISOMURA: Right. That they -- they're understanding that idea of drawing from what we've done in the past because it's going to help you with what we're doing today and in the future.

MIA BULJAN: One of the things that -- one of the things that comes up a lot when we look at, like, the math practices and like, making sense of novel problems, and -- it's this idea of being patient problem-solvers. And I feel that in your class. I can feel that patience. But -- but there's a sense of patience, that like, this is supposed to make sense. And I love the ending of, like, you know, the prototype, which is, like, "Well, it doesn't make sense right now, but we're going to get there. We should just be able to toss this one when we figure it out and do it over the right way."

ERIKA ISOMURA: Yeah.

MIA BULJAN: You know what I mean? There's this real belief that this is supposed to happen and that it will. So in that sense -- and so -- one of the things that I thought was super interesting was when they first got started, a lot of the kids -- there's these yellow pictures, which I feel like is done in every textbook around decimal -- you know, the hundredth grids or the tenth grids and how we represent eight-tenths with these bars.

ERIKA ISOMURA: Right.

MIA BULJAN: But they're not something you've really used.

ERIKA ISOMURA: No. Not at all.

MIA BULJAN: And the expressions, which were fairly difficult and included addition and subtraction, which are not in any of the number talks. A lot of your kids went straight for the blue cards.

ERIKA ISOMURA: Mm-hmm. [affirmative]

MIA BULJAN: And when you asked them about it, they said, "Well, it's easier." Can you talk a little bit about that?

ERIKA ISOMURA: Yeah, that was puzzling.

MIA BULJAN: Because they clearly weren't easier.

ERIKA ISOMURA: No, it was -- so -- well, can I talk about the yellow cards first?

MIA BULJAN: Okay.

ERIKA ISOMURA: One group that said the yellow cards were easier was Diego and Antonio, and they said it was because it's just cake problems. These are a whole bunch of cakes that have been cut up.

MIA BULJAN: Coming back to that idea of connecting it to this experience.

ERIKA ISOMURA: Right.

MIA BULJAN: Okay.

ERIKA ISOMURA: So I ...

MIA BULJAN: Who said that?

ERIKA ISOMURA: Diego and Antonio. Well, Diego, because Antonio doesn't really talk.

MIA BULJAN: I think that group in the corner said the same thing.

ERIKA ISOMURA: Okay.

MIA BULJAN: But yeah.

ERIKA ISOMURA: Yeah. So there were the people who immediately saw cakes and recommended that next time I make pies, but there was the cake group, so they -- like, all the ones that went for yellow ...

MIA BULJAN: A challenge.

ERIKA ISOMURA: ... were kind of like, "Well, it's just, you know, we've done this."

MIA BULJAN: Nice.

ERIKA ISOMURA: I know. "It may not have looked exactly -- but we've done this." And then the groups that went to the blue -- yeah, that was really puzzling to me because -- some of them, yes, we have done. Some of the problems were very clearly mimicked in the number strings we've done. A couple of them were ...

MIA BULJAN: The multiplication, the division ...

ERIKA ISOMURA: Right.

MIA BULJAN: ... fractions. Yeah.

ERIKA ISOMURA: And a couple of them had come from the last big unit we did on multiplying -- multiplying and dividing fractions.

MIA BULJAN: Okay.

ERIKA ISOMURA: So I got those. But the ones that puzzled me were, you know, three-tenths, 0.3, 0.3, 0.3. Yeah, no problem.

MIA BULJAN: Adding. Yeah.

ERIKA ISOMURA: Or six-tenths and seven-tenths written as decimals. Yeah, no problem. And the reason that Ruchita's group gave me was because, well, you -- basically they said it's place value. You line up the ones together. You line up the tenths together. You make sure the decimal points are together, and ...

MIA BULJAN: That doesn't move.

ERIKA ISOMURA: ... then you just do it. I feel like they were confused why I was asking, and they were confused in what I wanted to hear as an answer.

MIA BULJAN: Well, but then -- so then you asked Ruchita, you said, "Well, what does it have to do with Diego's idea of moving decimal points?"

ERIKA ISOMURA: Right.

MIA BULJAN: And she immediately said, like, "Yeah, but he's multiplying and dividing, and that behaves differently," which is very clearly math practice seven, where, like, the structure of whole numbers -- when you're adding and subtracting, you have to add and subtract things that are alike. It's a huge idea. It's why we have common denominators and ...

ERIKA ISOMURA: Right.

MIA BULJAN: ... place value in the first place. And then in multiplication, not so much. You know?

ERIKA ISOMURA: Yeah, and that's ... I mean, that was the overall goal to all of this, was to hit all of the operations and not actually have to teach the operations.

MIA BULJAN: And you predicted that.

ERIKA ISOMURA: Yeah.

MIA BULJAN: When we first started planning this, you said, "I've never really taught ..."

ERIKA ISOMURA: Decimal operations.

MIA BULJAN: "... decimal operations. I've just taught these concepts, or we've experienced these concepts, and then eventually, they go, 'Why are we even doing this? It's totally the same thing as x,' or 'It's totally easy.'"

ERIKA ISOMURA: So, that was really nice to see that ...

MIA BULJAN: That they're on their way.

ERIKA ISOMURA: ... they're on the road to that. So when I get to actual -- officially teaching decimal operations, hopefully they'll know that, you know, "Multiplication and division, I can just go back into my comfortable fractions. Addition and subtraction, I can just think about my knowledge of place value," and it's a non-starter.

MIA BULJAN: Yeah.

ERIKA ISOMURA: I'm done.

MIA BULJAN: Yeah.