MIA BULJAN: And I know we talked before the lesson about some of the...some of your reasoning for how you planned that lesson and then also, um, some of the things that you were anticipating, like, might happen. And, um, first of all, you totally nailed it.

ERIKA ISOMURA: Yeah, not so much but there were things that were really good that I was really happy with, and there're things that we're going to be coming back to on Monday.

MIA BULJAN: Yeah, naturally.

ERIKA ISOMURA: Yeah.

MIA BULJAN: So, um, I'm going to...there's three, three sort of big math, um, ideas, and some of them were content and some of them were sense making.

ERIKA ISOMURA: Mm-hm.

MIA BULJAN: And so I want to kind of, like, follow those stories and ask you some questions about those first, and then there's some other things. So the first thing that you started with in this lesson was this idea of the parts and the wholes.

ERIKA ISOMURA: Mm-hm.

MIA BULJAN: And you wanted them to, um, connected to the idea of Camila's story or Jesus's story.

ERIKA ISOMURA: Right.

MIA BULJAN: Can you, like, mathematically, can you talk about the value of making that connection, because it came up several times when you were questioning small groups. Like, why was that connection helpful?

ERIKA ISOMURA: So when I was planning the lesson and then kind of the unit around it, I was thinking that with multiplication, because of the dual nature of fraction multiplication that that does come up where, you know, the "of" questions are...you have this whole amount, whether it's a whole unit or a whole set. And then in some way you are partitioning it, which is weird because it's kind of to me division but it's not. So it's...and that's...

MIA BULJAN: It was. It is.

ERIKA ISOMURA: Right, it is and it isn't and it's really...it's very...

MIA BULJAN: Because fractions are division.

ERIKA ISOMURA: Right.

MIA BULJAN: And multiplication is multiplication, so it's really, like, both, right?

ERIKA ISOMURA: Yeah. And it comes up and it's...that's a big stumbling block, I think, for my students, the fifth graders, especially. The sixth graders that I've taught, maybe not as much, but the fifth graders really get hung up on: is it multiplication? It is, but it feels like division.

MIA BULJAN: Mm-hm.

ERIKA ISOMURA: And, um, so when I was doing this, the planning and the stories, and all of those things, I really wanted to give them an opportunity to really experience...so some multiplication is this amount that we're taking a part of, and it does feel often a bit like division even though it's actually a multiplication problem.

And then other times it's very intuitive that this is a multiplication. I'm repeating, and repeating, and repeating, and repeating. And I was hoping that that idea of, "Well, if it's repeating then I've got all the parts, and I just repeat them a certain number of times then I get that final quantity," versus "I have something and I'm taking the fraction of it, which means I'm taking the smaller bit, which is going to feel more like division."

MIA BULJAN: Mm-hm.

ERIKA ISOMURA: Um, and I was hoping that that idea would translate into when they started working with the bar model that, "Oh, these Camila problems, I'm going to start with this amount and then I'm going to fraction it off."

MIA BULJAN: Yeah.

ERIKA ISOMURA: Versus, "Oh, Jesus's problem, I'm going to draw a bunch of little parts and then count them up." So I was hoping that they'd start seeing that tie-in, um, and start putting it into their own brains.

MIA BULJAN: Right. So that was your anticipation and, um, so that definitely, they definitely lost traction there.

ERIKA ISOMURA: Mm-hm.

MIA BULJAN: And, um, what I heard you doing when you were walking around the small groups was using that frame for your questioning: So if this is like Camila's then what do we know about how Camila's problem works and how do we see that here? And if this is like Jesus's, what do we know about how Jesus's problem works? And I think that was a really, um, powerful sort of teaching stance to take, which is like, "I'm not going to explain all that about taking parts of and dividing and all that. I'm just going to have you hook into this thing that you already know." Right?

ERIKA ISOMURA: Right.

MIA BULJAN: And so how successful do you think that was, like, case by case?

ERIKA ISOMURA: Um, some were more successful than others. So the boys...there was a group of...two groups of boys in the back that aren't on the video but they really struggled with that idea of, they could talk about why they were, you know, why this problem was the same as Camila's or Jesus's, but they weren't able to go any further than "I know that they're the same. I know that this has this amount," but it didn't really sink in that "I can use that to actually do something." The groups that were more videotaped, most of them I know, Diego and Ruchita were able to dig into that a little bit.

MIA BULJAN: Yeah.

ERIKA ISOMURA: Um, Rosa Linda, when she was addressing her own problem with the crayons, she was...she wasn't able to see how it being like Camila's problem was helpful. She still wanted to cut the crayons in half, so we actually had to dig into...

MIA BULJAN: We're going to talk about that.

ERIKA ISOMURA: Right. Um, the numbers themselves and why numbers are the way they are in problems. I was actually pleasantly surprised that Elijah and Camila...

MIA BULJAN: Yeah.

ERIKA ISOMURA: And that's the group that struggles a lot with math. So Camila has a lot of difficulty with mathematics, um, just general understanding of how the world works around mathematics. And Elijah tends to go so fast that he never slows down to think.

So I was curious with those two, but we ended up talking about...they had found a picture that didn't match a problem, and it was one whole cut in half and then it was the half. And so we did a little bit of talking and I asked them, you know, "Who's this like?" And they were able to say it's like Camila's. "Well then, can we tie it back to Camila's problem? Can I just make it Camila's problem?"

And so I talked them through and they seemed to be, I thought they were getting, "Oh, yeah. So then Camila, here's your one foot of string and I'm just going to cut it here. Oh, good."

MIA BULJAN: Yeah.

ERIKA ISOMURA: Um, so I was interested...I thought that was interesting because I would've...I anticipated that that would be a real struggle for that particular group, and I was...

MIA BULJAN: So they did use what they knew?

ERIKA ISOMURA: They were able to make that connection.

MIA BULJAN: That was unfortunate, um, because, um, they, um, the answer and the partition were the same.

ERIKA ISOMURA: Yeah.

MIA BULJAN: So you had one and you cut in half and you kept saying, "So how much is she going to use?" And he was like, "Well, half." And it wasn't clear if it was, like, half of that or half of this, you know.

ERIKA ISOMURA: Right.

MIA BULJAN: But he did understand it. It was just the language that kind of obscured them for a second, but I agree. I think he really did get that. And then I like the way you challenged him to, like, now write a new story now that you've, like, done that.