Debrief Part 1

MIA BULJAN: So I'm Mia, Mia Buljan and I teach 3rd grade at Glassbrook Elementary, which is in South Hayward, and this is my third year at this school and in this grade level.

ERIKA ISOMURA: And my name is Erika Isomura. I teach 5th grade at the same school and I think I've been here fourteen years. This is the only school that I've taught at.

MIA BULJAN: When I've been doing number talks, multiplication number talks with my kids and, um, so we did today, we did five times fourteen. And, um, it, they really do see that you can break, you can do five, you know, ten, five 10s and five 4s. Like that's very clear to them. Like, the other ones we've done are, like, four times twelve, and, like, five times thirteen, like, I've always done, like in the teens...times some of the number. And, um, they very clearly see that you can separate it by tens and ones and do that separately. And then I did, after I did four times twelve, I did four times eight, and there was a lot of, like double, doubles, and there was a lot of, like, counting by eight, you know, counting repeat in position, but nobody thought to do, like, four times four and four times four, or two times eight and two times eight, or whatever that would have been. Um, so it is interesting, they don't necessarily see those little pieces where there are ten and the ones even, even when they first meet it. That's where...and in fact, I use that to introduce the, to sort of push on them about the idea of, like, what if there was no ten, like, what else is friendly? And they're like, well, 2s and 5s and so if you have all these eights lined up here, like, is there, and there's no friendly ten, like, what else would be friendlier? Well, I could do five, well, what would that look like?

ERIKA ISOMURA: Mm-hmm.

MIA BULJAN: And they do it. So, um, so, uh, super interesting that bigger numbers can be a helpful way of, like, naturally decomposing and maybe apply that to smaller numbers.

ERIKA ISOMURA: Yeah. I just, it just never dawned on me to even try smaller numbers. You know, it's fifth grade so we started in the teens and work it up.

MIA BULJAN: And they memorized seven times eight, right.

ERIKA ISOMURA: So, why bother going to the one digits? Then it was like, oh interesting.

MIA BULJAN: Good information.

ERIKA ISOMURA: They were just completely floored by one digit numbers.

MIA BULJAN: So, do I, okay, so I only use seven of them, I didn't use all of the division ones. The division ones that are more problematic for me were like the, um, you planted thirty-six plants in three rows.

ERIKA ISOMURA: Oh yeah. Smarty.

MIA BULJAN: Uh, like, to me, the language was pretty ambiguous, like, I, like I couldn't think of how, um, like you have to bring a lot of understanding of, sort of equal groups to that, and my kids aren't there yet. And so I sort of pulled those out because I didn't want to, like befuddle them on purpose, like ahead of time. So, so, like, to me there was no, like, clear argument that

you could make looking at it, that they weren't saying three groups of thirty-six versus thirty-six in three different groups.

ERIKA ISOMURA: Mm-hmm.

MIA BULJAN: You know what I mean? Like there's nothing about the language that really indicated it, and so, um, so, like, I, I, I wasn't entirely sure that they were going to bring everything they needed to understand that. So I did pull those out, but I love the other division problems. And I had everybody do their own and then I had them find somebody who did the same one as them and see if they could sort of, like, agree. And it was, um, it, super hard for them. Like, like, a lot of them were really so confused between, like, uh, multiplication and division of course. And there's, do you remember the problem about the cookies? Like there was fifteen cookies and you made them into bags of three.

ERIKA ISOMURA: Okay.

MIA BULJAN: So you pulled out, like a, sort of like a, like a, um, there was a measurement, divisions.

ERIKA ISOMURA: There was another one with crayons, twenty crayons and you were putting them in four boxes.

MIA BULJAN: Four at a time, right, I, I took that one that out. I can't deal. So I, um, give, but I had given, Adil, who is very, um, very quirky, very clever, like very, uh, interesting kid, and he had that problem and he did, he did, um, he built three sticks that had fifteen each.

ERIKA ISOMURA: Mm-hmm.

MIA BULJAN: And then he kept breaking those up into groups of three and he was like, "Here's your five bags." And he would take the next stick and he would break it up in groups of three and he was like, "Here's your five bags." And then I was like, well, and then he kept doing that. And I'm like, so what are these sticks, like, why do you have all these sticks? He's all, "Because three groups of fifteen is forty-five." So he was doing it like, he thought he had to multiply, like, he had, he thought he had to have three groups of fifteen and break them all up.

ERIKA ISOMURA: And then break it up.

MIA BULJAN: But he wasn't confused, he wasn't saying, like, I'm going to have fifteen at in the end. He was like, "Here's your five." Like, he could answer the question. And like, "Here's your five," and "here's your five." So you can keep making fives (laughs). Like, oh, okay. "So tell me a little bit more about why you need all these?"

ERIKA ISOMURA: Yeah.

MIA BULJAN: So, and I'm afraid I sort of, like, uh, just sort of dismissed it, like, well, I just sort of forced him to see, like, that's not what it was asking, but I sort of wanted him to sit with it a little bit longer. I should've had him, um, hook up with a kid who had the same problem. Except that they both messed it up so that would have been a good one. Like when they're both messed up and they're trying to convince each other that they're not wrong that's a really good one.

ERIKA ISOMURA: But sometimes it can be helpful. Because I had two boys that were arguing about, um, the balloons, somebody was giving ...

MIA BULJAN: Yes, that was ...

ERIKA ISOMURA: ... four balloons to each of five friends.

MIA BULJAN: Why was that so hard for them? Yeah.

ERIKA ISOMURA: Well, Roberto says, "Well, but it says each, so it's division."

MIA BULJAN: Right.

ERIKA ISOMURA: Then he's trying to figure out how to divide five and four, and Hanas was like, no it's not, it's multiplication. And I talked to them, then I asked them, "Okay, so when," you know. We've chatted a little with...Roberto was still adamantly, "It's division." [The other student], adamantly, "It's multiplication."

MIA BULJAN: He learned his clue, his clue words.

ERIKA ISOMURA: So I, I gave them each a piece of paper and I said, "So, draw what you think this problem is talking about. Just do it on your own." They both drew. "Now compare your drawings." Roberto says, "It's the same drawing." (laughs)

MIA BULJAN: Oh, how funny.

ERIKA ISOMURA: Because, so they talked about it, and it was, it was hilarious because Hanas is, he's, you know him, he was your kid, he's a nut.

MIA BULJAN: Yeah, he is.

ERIKA ISOMURA: So he says, "Oh, it's because, Roberto figured out that you had twenty balloons even though the problem didn't say it." He knew there were twenty balloons so then he divided it back out, and, you know, and that's where he was thinking about the problem. And I was looking at the problem of being, I don't know how many balloons and I need to figure it out so I have to multiply to get the number of balloons.

MIA BULJAN: But the product was so trivial for Roberto, he just knew it and so he was just moving back and forth. Right.

ERIKA ISOMURA: Right, so he was like on this other thing. Right. It was really funny though because every... they're faces were like, oh.

MIA BULJAN: The pictures and things. That's awesome. I had, I had a, some controversy around, um, Sam and his friends eating hot dogs.

ERIKA ISOMURA: Mm-hmm (Affirmative).

MIA BULJAN: So I had one girl who, um, only divided up twenty-four hot dogs among the three friends and the boy who did the hot dogs among four, because it was three friends and Sam.

ERIKA ISOMURA: Three friends and Sam.

MIA BULJAN: Did you have any kids that struggled with that?

ERIKA ISOMURA: I might have. I didn't happen to get around to that. ...encounter any of them. Yeah.

MIA BULJAN: Yep. So they, um, uh, when, when we first asked them, when I first asked them to talk about, Enmy was like, "Well, no, it, it won't work." And so she went ahead and got another kid and divided them up, and then when she realized when it... First, she said that can't be because she didn't think that it would divide evenly. She was like, "Someone will not get the right, it won't be even or whatever," but when she proved to herself that she could put six in each one, she was pretty easily convinced that the language was asking about, um, all four of them. But, um, it was funny because as Esbin had written and drawn out the, the four.

ERIKA ISOMURA: Mm-hmm (Affirmative).

MIA BULJAN: Which was, um, he just comes over and hands me the paper and I'm standing in front of Enmy and I'm like, "Oh, you two should talk." (laughs) She just hands me the paper, you two should go talk about that. And, um, I thought they did a pretty good job of like, um, she, uh, you know, I, at first, I thought that, you know how like, some kids when they kind of know that I think it's one way or whatever, they'll sort of like, give it up.

ERIKA ISOMURA: Yeah, they want to get into your thinking.

MIA BULJAN: Totally. And so the fact that I wanted her to hear it as being, I was concerned that she would take that as what, as being as right and so, like she would she cave too early. So at the end I asked her, "Well, what, what would it have said if it was just for the three friends." And they actually both came up with sort of legitimate wording that showed that they knew the difference between Sam and his three friends versus just among the three friends. So I was pretty convinced that she was, um, like legit convinced instead of, just, um, giving up because she's, you know ...

ERIKA ISOMURA: Yeah.

MIA BULJAN: ... how sometimes you're worried that you think that they're just trying to do what you want so, um...