DEIDRE GREVIOUS: And so, what were the different things that you think that you introduced into this lesson to help with their reasoning?

AMY BURKE: Honestly, I think that even just providing the little sentence frame that we did allows, kind of walks them down the path of you're going to need to share your reasoning about this. This isn't just going to be an answer. And I think also the turn and talk. So hearing from someone else allows them to build their own argument, that mathematical practice of critiquing the reasoning of others. You're doing that internally whether or not you're asked to like rebut at that moment. And I think also the writing piece, the individual writing piece allows for that.

DEIDRE GREVIOUS: And so, there were some struggles like you said about scaling the axes. Were there other struggles that you noticed as you were trying to get them -- I know we were short on time, but as you're trying to get them to figure out which model to use? So ...

AMY BURKE: Yeah. I didn't, honestly I don't have a great sense of what everyone used as their model so I'd love to look at this, this, because in the moment I wasn't able to recognize who was using quadratic and who was using cubic.

DEIDRE GREVIOUS: Oh right, sort them by ...

AMY BURKE: So maybe we could just go through and look at groups who did quadratic versus cubic. So interesting.

DEIDRE GREVIOUS: Yeah.

AMY BURKE: So, I was expecting coming into the lesson that 100% of groups would use the cubic function, but I think that I had not even anticipated, which is ridiculous that I didn't anticipate, but I had not anticipated there would be an error in calculation.

DEIDRE GREVIOUS: Yeah. Right.

AMY BURKE: And that's -- I mean we're humans, of course there might be an error. So, because of that outlier maybe that's me putting a reason in where I don't know if that's true or not but we have three of the eight groups who chose a quadratic to model the data.

DEIDRE GREVIOUS: Well only because it fits a quadratic relatively well. So, how do you think that you would be able to help these students see that the quadratic model was actually a better fit than the -- I'm sorry, the cubic model was a better fit than the quadratic?

AMY BURKE: Right. Well, I would have loved to have the time to have. I had the front table's Chromebook queued up to try to share theirs, so.

DEIDRE GREVIOUS: And it was a cubic?

AMY BURKE: It was a cubic and it had corrected the data. And Vincent said to me, "When we corrected this one point, the cubic just fell right onto it." I mean those weren't his, those might've been his exact words, but it's just so clear …

DEIDRE GREVIOUS: Right.

AMY BURKE: … when you have the correct data in there. So, on this side of the lesson I'm not surprised that some students didn't get to the cubic and I don't ... I'm thinking about it, how might I have done the lesson differently. And I think, I wonder about whether stopping earlier and asking Vincent to share that correction might have supported everyone in getting a cubic.

But then again, to me that's not really equal to success. I'm not looking at this and being like, "Oh, these kids got quadratic instead of cubic. They didn't understand the lesson today." The lesson was focused on multiple representations of mathematics, and I think that students had that opportunity. And it was -- another takeaway we wanted was for students to do some sort of deep thinking and building an argument and revising that argument as we moved through the lesson. And I feel like we see evidence of that.

DEIDRE GREVIOUS: And do you think then, that because they've experienced this in a completely different way from just doing it on a piece of paper that you'd be able to return to it and revise the work today? If a student was convinced it was a quadratic would you easily be able to readdress it?

AMY BURKE: I think so. Absolutely, right. Not through my voice though, through one of the student's voices, you know?