TEACHER: ...Like in solving for the unknowns, that little category they came up with, they were really clear that there was just one solution. But still, nobody went back to the 3x+2x=5x. It's like, how do you know that that one doesn't have one solution, or that f*1=f. How many solutions would it have -- would it have two, would it have five, you know? I would just like to hear why they were clear that it was different about those, so yes, I like that idea that we could revisit it. You know, like if you had your digital camera, you could take a snapshot of the board and go "Well, we came up with this category but there are still these outliers out here, what makes them different from the two groups we came up with for equations?"

JACOB DISSTON: Before we finish there's one question that we had brought up in the beginning was "Was it too much? Were there to many things?" I'm just curious what you guys think about the choices that we made in terms of what was on the cards, and how many cards there were...?"

TEACHER: If there were fewer cards, I don't think as many distinctions and counter-examples would be as ready at hand when people say "You put it there, but that would fit in here, but it doesn't fit in this one..." I think to me the number was right and it wasn't too intimidating or daunting. I think because of the different formats and the different structures you have, at first they are all together, then you get together with these two or three people you think fit with. So I think they were sort of eased into as opposed to "Great, in your group, here, here are these twenty five things, you guys sort them." I think the way they were sort of eased into it was just enough. If there were fewer distinctions and contradictions it wouldn't have been able to be dealt with.

TEACHER: As I said the other day, when you decided to add a few more, well, it gives you the flexibility of... if people were using all of them, to discuss all of them, and if there are ones that people don't even touch then you don't have to go there. Nobody talked about formulas so you didn't have to go there. If you had, it would have been too many layers. But if one group got really deep into the formulas, you could've discussed it with that group, or potentially had that group bring it up. I agree, I actually think if there were many less, there wouldn't be enough counter examples. People could make generalizations and there would be nothing to disprove it, if it was not an accurate generalization. I think it was differentiated in that way, in that it allowed people to use the ones that made sense to them, and disregard the ones that didn't. You never said "you didn't use this one, where's this one go?" And so people got to sort of do it with wherever they were. Actually the group that I looked at did use the f*1=f, and... there maybe another one. I thought they had two that had multiplication. They had a group of properties involving addition, and another one that was properties involving multiplication. Yeah, so they never said that out, they never discussed that but they actually had utilized those. So I think it allowed some groups to use more than others.

JACOB DISSTON: This class was very focused on properties. I forget who first said the word "property." I think somebody said "that one has commutative property to it."

TEACHER: Derrick started it. He was like, "Yeah, it's this thing."

JACOB DISSTON: Yeah, right. I think he said "they're all commutative" or "they're all the same properties."

TEACHER: Right, he did. He was the one who initially brought up the property idea.

JACOB DISSTON: So with that name, yes, those are the ones that fit there. In my third period class, they were talking about...I think I did a little more prompting and talked about "would this always be true?" Like 4=5x, "Is that true for all numbers?" "No, it's only true for one..." "x+y=y +x: is that true for all numbers? Let's try some numbers..." So 3x+2x=5x fits, then, in that category because it's true for all numbers... category... rather than properties. I think Steve mention this group getting into a discussion about 3x+2x=5x not fitting there because there wasn't a property name for it; it was combining like terms, which is not a property. So, really too focused on what is a property versus this idea of number pattern and whether it's true for all numbers. I thought that was good. I thought it was good that f*1=f can stay out and that we don't have to talk about that. Although in the other class they say that it was a property, that it's the multiplicative identity...

TEACHER: They had so many different transitions, but I think of a normal class where you give them one or two instructions, and every table wants to know "What were the instructions? What were the instructions?" And here it was so open ended and yet they were intrigued enough by what you were asking them to think about that I didn't hear people asking about "What's the directions?" They were willing to not have clear directions and to try to figure things out for themselves which was really interesting.

JACOB DISSTON: I think there was a huge effect of the research lesson: the other people in here, the cameras, I mean we've talked about it, they all sit a little taller, they're willing to kind of go that extra step to figure things out and it's a wonderful thing...that hopefully will last for a few days after you all leave...