

Intermediate Math Parts  
Post Interview

Interviewer: You need any prepping?

Teacher 1: No.

Teacher 2: Nope.

Interviewer: How were you effective in communicating the purpose of the lesson?

Teacher 2: I think we definitely could have been more effective. I think we could have gone over ... We had them write down finding parts of parts, but I don't think we really were ... Our objective is to find a part of a part. I kind of launched into the zoo problem, which is good because it was just letting them explore it. Yeah, I don't think that objective was as clear as we could have communicated.

Teacher 1: I was going to say the same thing. Writing the title was the first exposure we gave them to it. I feel like because I did this lesson twice today, I'm getting confused between what I said in one class and what I said in the other class. I feel like we stopped partway through the zoo problem. We're trying to figure out today ... Today is all about finding parts of parts. I agree with Teacher 2's answer that it could have been better but I don't think we needed to belabor it either because we are going to come back to this.

Teacher 2: Yeah. I think one thing that was hard that I totally did not anticipate being hard was the fact that you use the second fraction before the first when you're writing an 'of' statement. I didn't think that through because we do that instinctually. I didn't think it through and then I forgot. I was, "Oh, gosh. I have to make this very clear, very transparent that this process does this," especially for the students who struggle with conceptual understanding. There was a time where I just pulled the kid in the back and I was like, "We need to go over this just me and you right now." This is really important and I didn't feel like she was getting it in the whole group.

[00:02:00]

Teacher 1: I think ... I think we're getting off your question, but just to add on to that. I think that is evidence for why they need to understand the concept of what's happening. We're finding parts of parts. What is our first part? How much of that do we want?

Teacher 2: Right.

Teacher 1: Instead of being, "First number times second number." That thinking, they need to pull back from the rote thinking and be like, "What's actually happening?"

Teacher 2: Even one student, at the end of class, is like, "Wait. This is impossible. They are asking me to find  $\frac{3}{4}$  of  $\frac{1}{2}$  but  $\frac{3}{4}$  is bigger than  $\frac{1}{2}$ ." I was like, "Wait. Slow down. Draw it out, because you're not drawing it out." Then, he drew the half and then he was like, "Oooh, I've got it." It was like they weren't slowing down enough. I think they got it.

They got the objective.

Teacher 1: Yeah.

Teacher 2: I wouldn't have called it our most successful lesson. Feel free to quote us on that one.

Teacher 1: Yeah.

Interviewer: Which parts of your instructional practice, do you think, were most effective in supporting the students in meeting the objectives [inaudible 00:03:08]?

Teacher 1: I think having the visual component of the lesson ... How we draw a square. Draw a square. Start with drawing a square. Cut it up. Do it with me. Cut it up together. The whole shading and visuals so they can physically see what's happening with the numbers. I think starting with that is a thing that I want to continue to do with fractions instead of going into, "Okay. We multiply."

Teacher 2: What I really, too, was addressing the elephant in the room, which was that there was this misconception that there were nine animal cages, but they were all different sizes. Addressing that and having Kolani being brave enough, "I thought it was  $\frac{1}{9}$  because of this." Then it was like, "Great. I'm so glad you had that misunderstanding. Let's address that right now." I thought that worked really well. I thought that was an effective part. Also, modeled for the kids that these are useful mistakes.

Interviewer: It's so funny because I was behind there. I didn't actually see what everybody else was looking at.

Teacher 1: Oh, the visuals.

Teacher 2: Yeah, yeah.

Interviewer: What role did organization and planning play as far as planning your classroom set up?

Teacher 2: See, if the planning had gone exactly as we had planned, it would have been a better lesson. Planning and organization is so important for us, especially in co-teaching.

Teacher 1: I felt like we sat down and talked through this entire lesson together. We created it together. Sometimes, I'll go make the PowerPoint and be like, "We should do this," and Teacher 2 will be like, "Okay, but what about this, this, and this?" and completely make it way more substantial. Sometimes I throw her under the bus and I'm like, "I changed it. I'm sorry." We actually went through the whole lesson this time and made the whole thing out together. I think that helped us be exactly on the same page. We usually are anyway, but it was really helpful to have thought through the process together, and thought of the materials, and thought of potential things that might need addressing.

Teacher 2: I think we'll extra day to wrap up this. We were reflecting after class. We're going to

need an extra day to wrap this up. I think that's good, though, because I think we're aligned in how we're doing it. I think, overall, finding parts of parts. I'm convinced that they got something out of today. If they didn't quite meet the objective yet, they're on the way to meeting that objective.

Interviewer: Was there any purposeful planning with regards to the groupings?

Teacher 1: We used the same groupings we used for last filming. The main priority was to get the students off camera who could not be on camera. I recall last time, correct me if I'm wrong, but last time the goal of the class ... There was three different parts of the problem, and it was arranged by how challenging it was. We had 'A', 'B' and 'C' with 'A' being the least challenging. Each group was assigned that letter without really knowing that they were grouped by ability levels so that we could have it more...

[00:06:00]

Teacher 2: What the viewer would see if they looked at the class is that we were at some tables significantly more than other tables which was purposeful with the groupings. Those were groupings that we knew would that would need a little bit of extra support. Was also why the third adult in the classroom, who had an answer key and who was lopped in, was at one of those tables. That's way, unfortunately, I was off camera some of the time, helping that other table.

Interviewer: What role did behavior management play in this lesson as far as expectations, procedures, routines or discipline?

Teacher 1: One of the things that I reflected on that the beginning of the second I taught this today with a different group of kids, is that we didn't go over the norms for the modeling dough, which we said we would. I had wanted to and didn't. I didn't foresee making a square being so difficult. Last time we used modeling dough we had them roll into a worm and flatten it so they ended up with a long rectangle and cut that into parts. I did not at all foresee making a square taking up so time. I think that derailed my inside mentality from the beginning which, I think, played a role in behavior management. We were behind schedule which made us rush, which made the kids who weren't getting it kind of like, "AAHHH," act out instead of ... I wouldn't say there was any crazy amount of behavior things happening besides the off camera constant conversation between two students. That little misstep of not reviewing those norms...

[00:08:00]

Teacher 2: Because we had different groupings, too, it was a little bit challenging. One group that was over here, the two students in reflecting with them afterwards, were off task because they knew exactly what they were doing. They both said to us, "We got the lesson. We understood the objective." I was like, "Yeah, but did the people around you? You were distracting." I think different groupings can sometimes switch things up in a way that can be overwhelming for the students. If they haven't been with those people, they're less likely to remember the norms and come in in the same mind set. I think that might have played a role in why classroom management wasn't as strong in this class as I feel like it normally is.

Teacher 1: Logistically, they all had ... At their tables that they're at when we're not filming, they all have individual jobs that we talked about yesterday. This time, because they were switched, all five jobs weren't represented at each table. The students had to step up. They stepped up, but I think that took away from the ownership of, "Hey, I'm the materials person and you don't have a material right now or you're not using it correctly." It took away from the ownership whose job was what. That's a little detail but it does add a lot when you can count on one person at every table is in charge of collecting all the modeling dough. That was another reason that I think these groupings might have affected their behavior.

Teacher 2: Yeah, definitely.

Interviewer: [00:10:00] Familiarity in the pacing to the easiest ways to encourage behavior management issues [inaudible 00:10:00], lack of familiarity and [inaudible 00:09:57]. I always screw that up or feel bad when I have to do something faster than [inaudible 00:10:15]. How do you think the lesson went with regards to behavior?

Teacher 2: I think it went pretty well. The 'I do' part was ... I think the 'I do' part was too long. We lost them through part of that. I think the core of that was that we handed out the modeling dough too early and maybe after we explained the problem. It took so long to explain the problem because they were all making those gosh, darn squares.

Teacher 1: I revised that in the second time I taught it. Now I'm hearing that I should've just said, "Come get it if you need it." I said, "Make a ball," instead of "Make a square, that way it's set up for you to mold if you need it." I didn't push the modeling dough as much in the second time. It worked a little bit better. It was still distracting. What was the question?

Interviewer: Engagement.

Teacher 1: I think that the students that we had, we had, as in the students who were invested in the lesson, were getting it and were following and were enjoying it and individuals were helpful. I think the students that we lost to either the play dough or because it was too long for them to focus, which is understandable, we lost them and it was really hard to get them back. The ones that we had were like, "Yeah, okay. I'm getting it. I'll cut it up." Then, they could go into the practice problem and talked about how much ... Include the money factor because the practice problem on their workbook was about money. I saw the kids working through that. That told me that, "You were following and we had you. You get this."

[00:12:00]

Teacher 2: It was a mixed level of engagement. I feel like overall with fractions, we've hit this problem where we never have before. We're used to going at a pace where we're anticipating misunderstandings, but with the last two lessons, they've been getting things faster. Then, because of the inclusion environment, we have some kids who need repeated instructions and modeling. I think we lose kids when we give those students

the repeated instruction and modeling. Those kids have been on it. One of the things I was really excited about in terms of engagement is when I went to every kid to check in, almost every single one of them had a great answer or had an accurate play dough model to show me or were clearly, "Yeah, it was  $\frac{1}{12}$  and here's why." It's one of the classes where I feel like they really got it but it was almost like they got it at such different paces that we lost them in different parts of the process.

Teacher 1: It felt disjointed but I think I'll feel better about today at the end of tomorrow when we've all had a chance to come in and quietly jump back into the problem and notice where you're having questions and notice where you can push yourself more. "Let's all let the dust settle and come back together and see." That'll give me a chance to work with the students who, because Teacher 2 won't be here, the students who needed that extra repetition. It'll give the other students to run ahead. I feel like [crosstalk 00:13:40]

Teacher 2: Something that we probably should've done is ... We usually have a, "Here's an activity on IEXCEL." They let you do 20 problems a day. It's a quick thing for those students who get done and we can choose an activity and we can do it so we know it's at that appropriate alignment level. It's not like, "Here, do something random while we wait." It's more like, "Here's an activity that's directly aligned. You're still practicing but you're moving on to something different so we're keeping you engaged." I didn't anticipate that they would finish at such different times.

Teacher 1: Me too.

Teacher 2: If we had anticipated that, we would have any I EXCELL activity ready so that those students who were ready, there was a whole table over there who was ready probably two minutes. It doesn't seem like a long time, but it is for middle schoolers ... Who were ready about two minutes before we actually wrapped up the 'do-now' to move on to the brownie problem, when really we should have let them move on or had something for them do in the meanwhile.

Interviewer: How do you think students found the lesson meaningful or relevant?

Teacher 1: They respond well to our [inaudible 00:14:55] wombat, connecting it to the park.

Teacher 2: At least have them where we can get them hungry. That's always like a good thing. That's always a fun connection for them. I think once we actually ... I think we're still working on that real world component. Fractions can often be hard.

Teacher 1: You know what's exciting that I want to talk about next class? This might not fully answer your question. After this class, we had Town Hall, which we all come together and you have to have  $\frac{2}{3}$  majority to vote on motions. 61 students were there. There's about 180 people at Seeks. 160 students and 20 students about. We had a math problem that talked about that in the previous test, which is why I think they're aware of that. I was aware of it. Basically, a third of the school showed up to Town Hall. We needed  $\frac{2}{3}$  majority of that  $\frac{1}{3}$  to vote. I remember I'd just had Town Hall when I

[00:16:00] taught this next class so we started with that. "This is real world finding parts of parts." 2/3 of 1/3 of the school needed to vote 'yes' to get this motion passed. We passed a motion. I'm going to bring that in next time to really be like, "This is a very relevant real world example when we find parts of parts."

I think short answer is, I think we're going to ask them to retroactively find that connection. We have an assignment called Math Musings that we give once every few weeks. Go out in the world and notice things around you that have to do with the concepts that we're learning. I think this is a great opportunity for us to be like, "Go notice, at some point in your life, when you need to find a part of a part. Figure out what that is." That will be a great chance to retroactively find those connections. I don't think it's ever too late to show them that this is relevant.

Teacher 2: I think it's also one connection that we can emphasize more that I would say about today is, in homework completion. We've done some new things with homework that has really boosted their engagement with it, their self-assessing. It's really exciting.

Teacher 1: It is.

Teacher 2: It's really exciting. It's really cool. It's really bumped up their engagement with homework. I think within a table, if there are six tables in our math class and 2/3 of every table did their homework, I think there's a lot of opportunities for 'do nows' with parts of parts within who complete their homework and finding that. Also, being real with them, "As teachers, we collect data and data shows us how we're doing and also how you guys are doing." Being able to real about that connection and then have them calculate some of those things, I think, is a further application of it. I think part of it is ... We are very transparent with them. We're like, "We're co-learners with you." As we notice these connections, we try to model it and bring it up. It goes pretty well. I feel like that real world connection is still building just because this was their first exposure to finding parts of parts.

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Interviewer: I think it would be cool to use sociological surveys in class. Then you find 3/4 of the class feels this way and 1/4 feels this way and then have secondary questions that are, "Of the 1/4, how many of that 1/4 also feels this way." You know what I mean?

Teacher 1: I want to spend every day ... I love that because you can graph it. You can chart it. You can categorize it. You can find ratios. You could take that so many different ways. We'll try to ... I think that's a good review.

Interviewer: That's the point, right? Where does it exist and what do we do with it and what does it tell us?

Teacher 2: Yeah, the literal connection for so many of them is the cake or the brownies or the pie. It's getting one step deeper which is what we get once they know how to do it. How do draw it with the brownies. Then, we can get into, "We use it for quorum in Town Hall. It's not as visual but how can we find that?"

Teacher 1: I'm excited to see those come out as the unit goes on.

Interviewer: Last one. How would you like to develop this lesson in the future?

Teacher 1: I mentioned a few things that what I did in the second time I did it around. What else did I do differently? We somehow jumped into their own investigation earlier in the second class. We didn't do the second example up on the board. I don't know if that necessarily a better thing, but I think asking them to ... I'm going to revise my answer.

[00:20:00] One way that I would push it is to force them to draw. Yes, you're using modeling dough but you need to have on paper a representation of what the dough is doing. If it's not helping you, we're just going to put it away. It can help with setting it up originally and then being like, "Oooh, okay, that's what I'm doing," and then going on paper.

I think forcing everyone to record their thoughts in their notebooks in that first play around phase might have helped and had the modeling dough come only if you need it. Next lesson, that'll apply. I'm going to keep the modeling dough on the side and make it known that you can use it if you need to, but not really advertise that as much because students will self advocate if that's something that they choose. Pulling back from, "Here's these toys. Play with them," to "They exist and you can use them if you need to but you need to learn how to select tools appropriately for your own learning." I think that's the way I want to develop this lesson further. It's focused more on, "You notice what tools you need because these problems are so varied."

Teacher 2: Our Wednesday classes are shorter. They're, what 20 minutes shorter?

Teacher 1: Yeah.

Teacher 2: They're about 20 minutes shorter so having you in for a Wednesday class was interesting for us because we tend to always for plan for a longer classes. That's what two classes a week are. Our shorter classes are the classes that are more challenging in terms of timelines. We tend to think in terms of a longer block of time. We try to squeeze things in on Wednesdays. We also have them right before lunch. There had to be three kids during that math class who were like, "So is lunch almost now?" She's like, "UGH."

Teacher 1: Kids getting up to check the time.

Teacher 2: Wednesdays are just a little bit more challenging. Normally, we have them right after physical activity, which makes them super focused, come in ready to work. They're ready to sit. They've already ran. They're good. This class period on Wednesdays is a little bit more challenging.

Teacher 1: I'm thinking another way to kind of take this further and tie in the fact that they're restless is to physically, not just survey them. We were talking about collecting data and finding a part of a part of this section of groups, but having students physically split up in

the room. Stand over there if you think this. Stand over there if you think that. Of that group of you, raise your hand or turn around if you think this way. Having them physically represent their answers to problems or to survey questions so that they can get moving and be invested because they're a part of it. Their physical body is a part of the work that they're doing. Trying to incorporate that more in these same types of problems of finding parts of parts. Maybe they'll bring in brownies and then we can cut them up.

Teacher 2: I know I was like, "Challenge homework is make brownies for Tuesday because I'm not going to be in tomorrow so we cannot bring in brownies when I'm not it."

Teacher 1: I think we're going to end up with a hundred brownies for my second class.