Steven: So again, if there's any point you want me to turn off, just let me know, it's easy. And you can relax, just say what you think.

So we're doing our end of year interviews for the project, and we started well before the end of the year this time. So the other part is if there are things that come up after the interview that you would like to share with us, you can send it by email or just catch one of us and say I want to do a follow-up on this question if there's things you want to add.

L-Gr5: Yeah, I'd like that, because I come up with stuff after the fact usually.

Steven: Very normal. If there are also things you want to take back from the interview, just let us know as well. Like I said so and so, but I don't think that anymore. So just let us know.

So it's going to be email or you can catch one of us and we do a short interview at some point during the day.

Okay. So next year, we'll be starting a hub school with another set of teachers coming on board. What specific advice would you give to new teachers joining Math Minds?

L-GR5: Okay. Now I'm assuming that there - Rose told us that they're incorporating the JUMP program, but they're not doing a lot of the professional development. Or I don't know if I should get that.

Steven: I don't know what the particular model is for theirs yet, but I do believe it’s - there is less of the direct support.

L-GR5: Okay. So I think that it's important to approach JUMP with an open mind. I think that there's a lot of conversation amongst teachers, just sort of – oh, it's very directed and controlled, so it's not conducive to enquiry and some of the more open ended.

I personally feel that it provides you with the theory and the guidelines to teach a topic comprehensively and it's systematic so that you learn - the kids can learn without missing chunks. But I think that you can teach it in a way that can work for you.

Like it's more flexible, I think, than people might think. I think it is quite important to talk to other teachers at your school as you're going through the process, because I think from our experience, a lot of people just sort of internalized and worried and assumed everybody else was just mastering everything and it was just them.

My own personal advice from my second year now is pacing. And I'm still - there's no way I will get through the curriculum again this year that I - for the amount of time that is allotted, I just - you can't do that.

I think you need to integrate social [INDISCERNIBLE] more and basically add more Math minutes to get through it all. I've done some of the geometry and some of the other areas in art class to try and get it, but with our structure, we don't have a lot of flexibility on our actual Math minutes.

So just to be aware of your plan and so that you can get through.

Steven: So this may have come somewhere else, and it came up a little bit with Cindy a little while ago. So what sort of advice might you have there? Ideas around structure for the year.

L-GR5: Like managing to get through the year?

Steven: What might make it work better structurally?

L-GR5: I think that to physically – like I did long range plans, but I think if I do this again next year that I'll have to be quite – like take each month and say, okay, by this month I need to get this many done, and truly look at at least two or three times a week having an additional Math class.

Because what I'm finding is this year as well as last year, there are so many review concepts that the kids don't have that you can't just jump into the grade level stuff without spending more time.

So I think it's setting the mini-goals to make sure you don't get too far behind, but also just being aware that you're going to have to be creative with your time allocation. Like your curriculum minutes.

And just make use of the resources that are available, because there is a lot - there's – I mean there’s our school now with the teachers, but there's also MJ and the JUMP site and that. There's a lot out there to help support.

Steven: Okay. What advice would you give the research team going forward in terms of working with new teachers here and/or in the hub school?

L-GR5: I would say to just continue what you're doing. I know, like personally with Martina, she's been very supportive and very helpful, and she's been very clear to say I'm here to watch the students learning.

And so it's not the - as teachers, we're all – we’re used to being evaluated by admin and whatever else, and so to help get past that – that I’m being evaluated, and know we're a community looking at learners and it’s – and I’m a - it's taken me a long time, but to kind of get more comfortable with that and to see it as such. I still get quite nervous when people are watching but - and just continue to be really approachable.

It's - I really appreciate how if there's a topic that the kids are struggling with, how you guys have given, okay, well, maybe try this, or maybe it's not working because of that. And that's, I think, quite nice. We're very lucky to have that.

The – like when - it would be, for a person like myself, it would be very – I think it’s - it would be helpful to know sort of your goals for the year, like if you want us to be - and I know you're trying to accommodate our needs too, so it's hard for you to assert too much for us.

But to say okay, we want to get to, by November where you have videotaped twice and used this program and then we're going to talk about it. Like kind of have almost long range plans so we know.

Because it's sort of - we're not - and everybody's growing together, this isn't a critique because we're not perfect either, but just sort of what's coming up and where should we go with that now that we've had some experience and hopefully we won't be as overwhelmed.

And we've grown so that we can kind of meet your needs better that way. Yeah, I think it's been very - we've been lucky to have you guys.

Steven: All right. One of the specific goals is to support the development of a strong Math Minds community within and between St. Rita's and the hub school. Do you have any advice on how we can make that happen?

L-GR5: I think it would be really valuable to be able to visit grade partner's classrooms. How that could be organized, I'm not sure. But that would definitely be good, and possibly have joint professional development sessions as well so there's that connect.

And I don't even know if there's something like a - where we have - it's something like every week or every two weeks, we need to make sure we touch base to say, okay, where are you at with your program, where am I at, and then share what have you learned.

And that would be really nice for a smaller school like ours, because we don't all have a grade partner where we can kind of check with each other.

So to build that relationship, but somehow to incorporate in ways that it doesn't become our evenings or weekends sort of thing. And I know that's really tricky to do, but yeah. I don't know.

Yeah, I think I would look it as the grade partner support.

Steven: Right. JUMP material such as the teachers’ guide, Smartboard lessons and workbooks are intended to help the planning and implementing Math instruction. Have you found these to be helpful?

L-GR5: Yeah, very much so. I found them to be very helpful, and I've also - as I've worked with it more, appreciated the flexibility of it. Like last year, Brian and myself when we were doing it, we took the teachers’ guides extremely literally, and it was very difficult. And then once the Smartboards were brought out, and that was a nice way to kind of have your -

Steven: The Smartboard?

L-GR5: Sorry, the Smartboard lessons, sorry. To have your key slides to keep you on track. And I really like the workbooks, or practice books. The kids really like them. It’s - they may have lost a skill in organizing their own books that way, but at the same time, they're able to accomplish so much more, because there isn't the page management and everything else.

And it's sort of their thing, they check in, do I get to take it home? Is it mine, that sort of thing. So I do like the practice books too.

Steven: To what extent did you follow the teacher’s guide, Smartboard lessons or workbooks? And in what ways did you improvise, extend or elaborate upon them?

L-GR5: I'm not terribly confident with Grade 5 Math. So I've used the guide and the lessons quite a bit.

I appreciate - I took into account what Martina had said about we'll always look at what the workbook is asking to sort of - for those lessons where there can be the 40 slides or whatever, to sort of narrow in, okay, this is my goal of where I want to be.

But I use them quite a bit. I will - I'm learning to read the lesson, pick key slides ahead of time, and then make sure they correspond with the - I look at the workbook as sort of the outcomes that we need to get to.

I'm also trying to work more towards finding - giving them the introductions they need, or the brief instruction they need, but then trying to build up some of that personal discovery - I don't know if you want to call it that - but the ability for the kids to independently start working through the progression more without kind of spoon feeding them everything.

And I'm really liking - we have those Whiteboards with the markers. That's been wonderful. The kids are really motivated with those, and I found it extremely useful for the formative assessment. When you introduce something and then seeing if everyone has it before you move on to the next step. I found them really helpful for that.

And as far as the extensions or elaborating, with the bonus questions, I think my version of bonus questions are still relatively limited as far as bonus questions can go. I know, like Martina will do really neat things where she plays with the Math, and I haven't quite gotten to the understanding of how I can present that to the kids yet without confusing them.

So it's me. I'm still at that point where I need to do that. For a lot of my extensions or bonuses, I typically will look further into the lesson and just have something from there available as this point.

Steven: Okay. All right. So referring to the list of principles for prompting success below, have you found these principles to be helpful? So have you found some to be more helpful, less helpful? Yeah. And if possible, you can give some examples.

L-GR5: Overall, I found it very useful to explicitly discuss them. So to look for that in a lesson and to try and be aware of that.

The systematic recursion, I think is very valuable, as are the fine grained incremental progressions. I agree with the discussion this morning that there are so many times when you go, well, with any lesson, well why didn't that work? I didn't think I had to break it down that much.

Or even talking with Ada, assume start right from the beginning, because you can't assume they have the foundation or the background knowledge.

The implicit attention to body space and gesture, I'm becoming more aware of that. That one's newer for me, just the awareness of it.

I'm really on board with extraneous distractors minimized. I think that's huge, both with the lesson and the practice books.

The discoveries are not told, it has been kind of a big learning area for me. I'm finding I link that with confidence with the Math, that if I'm confident with a concept, then I am more comfortable letting it go and having the discoveries and the discussions where I realize upon reflection that if I'm controlling it, it's something I'm not as comfortable teaching. But I truly do see the value in the kids needing to make those discoveries.

The bonus questions, I think - again, I see their value, and I'm implementing them on a somewhat superficial level at this point, but they really do allow then for the kind of decreasing the hierarchy in a class, I think, that to, you know, let those kids - I don't even know if it's that. But it just keeps them working while you can work with the other kids.

Steven: Who's them?

L-GR5: Sorry. The children that get the concept easily or quickly and work through. And it's typically the same kids, but depends.

Steven: Well, I know your Grade 5 class so -

L-GR5: Yeah. Symbolic and linguistic Mathematical expressions and terms. Yeah, I think that's - if I'm interpreting this correctly, they need to know the language of Math. But not in – like in a manageable, usable way. So being attentive to that.

Helping general tools for problem solving. I would link that with discoveries myself, and I think that's extremely important and that's something - both the discovery and the problem solving, this year I'm realizing in all subjects how important that is.

And the participatory culture of enquiry, that's a goal. That's a huge goal for me. And that's something I'm working on as I get more confident letting it go, so to speak, and guiding and giving.

Steven: Okay. Have particular experiences stretched you outside your comfort zone? What felt more comfortable and less comfortable?

L-GR5: I - yeah, my comfort zone is pretty - a lot of experiences stretched me outside of my comfort zone, and I think it's important and good that they have.

My background is early childhood, so working with Grade 5 students in general is not as comfortable for me. And then putting the Math as well is kind of an extra level. So just the Math in general is not as comfortable as it would be in Grade 3 or Grade 1. The - but just even, I mean, it's been extremely valuable. It's been a little bit messy, kind of working through, sort of realizing, okay, this is how you think you teach. And then you observe yourself and you see how you really do teach.

So the videos, I'm still not terribly comfortable with. Then of course, I find every excuse under the sun why I didn't videotape. But I'm hoping to get to the point where I truly can just see them as the tool they are.

And that one PD session you did on pacing was just huge for me. Just to sit there and objectively evaluate how much am I doing versus how much are they doing. That was just

Steven: And - so just jumping - if you ever want to do that again with your, just let me know. If you - is there a day next week you may want to do this after school? I've got some time when I want to do this. The first part, I know is a challenge. I have some time. That's the fantasy.

L-GR5: Yeah, okay. Well, thank you. Yeah. Because that's been huge.

Steven: Usually – there’s variation here as well, but sometimes it's easier to watch with someone else. Sometimes it's no, I have to watch this by myself first.

L-GR5: Yeah, yeah. And that’s - for someone like myself, and when we were talking about the year plan, sort of your goals for us, then if I know that's coming, that kind of makes me more accountable, whereas I know you guys are being so accommodating to us.

But then I kind of – well, for stuff that isn't as comfortable, then I kind of fall through the cracks that way. I'm feeling much more comfortable having one or two people in observing.

I still - my teaching is still different when there's someone in the room than when there isn't. But I am coming to trust that - and it's not anything personal, but just coming to trust the fact that you're there to look at how kids learn, and you're not there to critique my teaching.

And that just comes from me, that's not what you guys have told us.

Steven: And stepping out of this here for a second. It's a really interesting feature of the North American education landscape. Whereas it’s not - to my knowledge, it's not the culture in sort of your Asian countries. There might still be evaluation, but the evaluation is oriented towards the same thing. Improving student learning. So it's not about teacher evaluation.

L-GR5: Right, right. So you guys have a lot to deal with, because we come with that baggage of perceptions or whatever. Yeah, and like it’s - I think you're developing a nice community with – like with the PD and that, I think people are more comfortable sharing, more comfortable voicing, and I think it's really growing. So, yeah.

Steven: I suspect you will be one of those who will have lots to tell us after the interview. I see it. That's okay. Okay. Mathematics teachers learn something new about Mathematics whenever they teach it, but they don't always notice. Have you noticed something new about Mathematics this year? So this one’s about the Mathematics.

L-GR5: I've noticed a lot about Mathematics this year, because the way I - Math for me was being given a procedure or a rule, and then doing my practice. So procedural practice.

One of my Math experiences was Grade 7. I had a very intimidating, large teacher, who I solved the problem. He said, well, it's correct, but it's very cumbersome. You need to do it this way.

And I just – that’s – I just remember from that point on, even in high school, I always had very acceptable marks, but I couldn't tell you why I was doing what I was doing.

So it's - it's been interesting, because as I go through - it's almost embarrassing, but when I go through the Grade 5 stuff, I'll check with my husband and say, okay, so we do this because of this reason or this because of that reason. I could always procedurally find, but I couldn't explain why.

So it's sort of - it's basically relearning Math, or learning to understand Math now. And that, I think that connects a lot to the comfort of how I deliver the Math, that it's - if you have a child that's able to stretch or extend, there's that concern, well if he does, I don't know where to go with it. So I don't want to put myself out there.

And coming to trust that if you can work through it together, it's valuable for kids to go, yeah, I'll go home and look at it and revisit it tomorrow after we look and try to figure out.

The thing I really noticed this year about Math, I noticed - thanks to Martina - is just all of the – like how you can play with me, and the patterns you can make. And I know you do a lot that too. And it's - I've never appreciated that. I was never someone who would want to sit down with something like those Sudokus and try and actually play around with stuff.

Steven: I'm not a fan of Sudoku.

L-GR5: No, you’re not. But just sort of that idea even.

Steven: This is personal, this is personal. I like puzzles, but just not necessarily that one.

L-GR5: Yeah, and even puzzles or anything like that. I just - and I don't know if it was just an uncomfortable thing, but it's fascinating to me. Like Martina will look at something, and the patterns she'll make and the connections and that, and it's really neat to see – and you see the interest in it and the enjoyment with it, because it's not something that I’ve equated with Math before.

And then to appreciate that and be aware when someone enjoys Math like that, that gets conveyed to the students – you know, I don’t know whether it would be subconsciously or whatever. But it affects them, right. To be open to that and try to go there. I don't know if that answers that question.

Steven: Question B. There are times during the planning for the teaching of the lesson where it becomes evident that there are gaps in our own Mathematical understanding that make it difficult to teach a particular concept or to respond to students’ questions. Have you noticed anything like that in your classes this year?

L-GR5: I think so. This is one I'll probably have to get back to you on, because I'll think about it, but I know - like if a child comes in - that last lesson that everybody came to watch when we were just basically doing review of multiplication. And a student introduced a different procedure. And I was busy trying to help someone and see if she was just following the standard algorithm. And she was presenting something different.

And instead of that, okay, saying let's explore that, let's try that a couple other ways, that just kind of made me panic and go wah. I don't know if that answers that question.

Yeah, and that's like my - I think that comes back to my confidence level with what I'm teaching and being open to that. And also too, the difference of the observation versus not. I'm a little more able to go, okay, let's look at this, let's try and figure it out. But I feel safer doing it without people watching at this point.

So it's something I have to build up. But I can think on that and see if there are any other.

Steven: Think of a Math lesson prior to Math Minds that didn't go as well as you hoped. What happened? So before this project, before starting with JUMP, were there any Math lessons that didn't go as well as you hoped?

L-GR5: Well, that was a long time ago. When I taught Grade 3 Math for several years, and we had - the district consultant had taken a large group of us and basically did her own version of a JUMP type program. But it was very prescribed.

Like when I think of multiplication, it was very procedural, and it was just - so in those sorts of lessons, it was because there wasn’t a lot of area for playing with it or discussing, it was pretty much, I did my piece. They did their piece. We looked at answers. We were good.

So I would say that the part that didn't go well with them is it was not – it was the Math I learned. It wasn't getting messy Math, like the Math that you really - the meaningful approach to it. And I think because those lessons were so controlled and so prescribed and the kids knew what they were doing and I knew what I was doing, and it was all for that some big assessment, it was – yeah.

I guess I would evaluate it as a whole instead of a - but I'm sure there were several of those where there would be gaps in understanding where there would have been too big of a JUMP made with the kids.

And not having that awareness to, okay, let's back up and see, you understood this part of it, now we have to add this layer before we can go on. And I do find with the JUMP sometimes, with the Grade 5, some of the kids have internalized some of the procedures - or I don't even know how to say it - where sometimes the JUMP microsteps will actually confuse them when they have to – like they're ready for more of a JUMP themselves, because I don't know if you'd say that's their tacit understanding or if I'm using that correctly – that they - it's hard for them to kind of back up and go, oh, okay, yeah, I know that. I don't know how to describe that.

Steven: As they teach, teachers often think about ways I might do this next year. Can you think of a lesson that you taught this year that you're excited to try again next year?

L-GR5: I have several written down in my book. I'm not sure I can think off the top of my head. I've taken a lot of notes about - because with the - the first part of this program - this is my second year with it - the concepts that we can cruise through quite quickly versus some of the concept that are very - both years have been challenging.

So it's again to like how am I approaching this and what did they come to me their knowledge was with? And a lot of it comes to the – like the standard algorithms is huge and I find that they can, you know, with the two digit by two digit, they can explain, you know, on the concrete or pictoral level, they can explain what to do.

But then to get to the algorithm, it gets confusing for them, and it seems like I need to revisit that both with multiplication and division. And I don't know if I even approach it with the yay, I'm excited to try it again, just – oh, I haven't done this well. I need to revisit this to try and figure out what I can do sort of thing. Yeah. But I can – I’ll star these.

Steven: I didn't punch holes on these.

L-GR5: Sorry, I didn't even ask. Is it okay if I keep this copy? Okay.

Steven: No, that's why I opened with if there are things that you want to - yes, you guys do get to keep them. Okay. Where do you see your greatest strengths as an elementary teacher? This is very broad. You can go subject or -

L-GR5: Okay. It's hard to talk about strengths. I think that I look at kids as individuals and I try - like with behaviour with kids and that, to truly look at where they’re coming from. What's their home life. What are they dealing with? Have they eaten? That sort of thing.

So you don't engage - if the kids have inappropriate behaviour, whatever, you don't take it personally. It’s - this is what they're coming with as well as providing – you know, meeting their needs. Like for some kids, if they haven't eaten, or they've had a tough morning or life is just tough, then the expectations for them are going to still be fair, because you don't want to say, no, you've bought out.

But just that, you know, celebrate what they're doing at their own level as opposed to someone else who's had a good sleep, eaten. Mom and dad are supportive. Then you can stretch things further with them, that sort of thing.

I really feel it's important to create a safe classroom environment where kids feel they can share when they're ready. And I really - that what Martina had mentioned, I don't know if it was last - I think two PDs ago about the whole idea of letting all kids experience public success and recognizing introverts are not as into that as extroverts and whatever else.

But just so that they do have that chance too, that it's not just oh, so and so knows everything and I know nothing. I think looking at school as not just the subjects as having, you know their - the worms that we're doing. That's a big deal for them. That's a big learning experience.

But April Fool's Day, taking the time to let them do their silly little things, because that's a school memory. And all of those memories. So beyond just the curriculum. You're teaching the kids much more than with the curriculum.

Steven: How is what you're doing in Math class similar or different from what you're doing in other subjects that you teach, such as science, English, art, music, phys. ed?

L-GR5: I think that there are - there's a somewhat predictable structure to the lessons in all of the areas, and I think there's a certain amount of comfort for kids to know, okay, this is what we’re - we have a certain routine with this or that.

The example I mentioned in the PD about the gym class, how there is - I'm starting to be much more cognizant of the - what skills do we need to do the next level, to then incorporate it and trying to add that in.

Steven: I've been playing squash with a couple of newbies. So I'm not an expert level squash player, right, but I certainly know what the first four or five steps are in sequence. I mean after you play you see regularly which ones they need to work on. So one, how to hold a racquet properly, so not this finger. Always different from tennis. So making that distinction. That they need to bend, because squash, you got to lunge a lot more.

L-GR5: And that's the ball, right?

Steven: Because the ball is less bouncy. So that, and then your two fundamental shots, a forehand drive, a backhand drive. And then build from there.

L-GR5: Yeah, and if they don't have that, then it's not very applicable for anyone.

Steven: Lots of practice.

L-GR5: Yes, exactly. And the practice piece, I am so excited with JUMP and the courses we're taking. It's been so nice to have the validation that there needs to be a mindful or meaningful amount of practice to - because it's felt for a while, that especially with Math, that it’s - the practice has been discouraged, just from what we get with our teacher development and that.

And I'm just so happy that we have to practice things to master them. And I understand the difference now between the mindless practice versus effective, and then, you know, you build on that practice. But that's been huge.

Steven: So we don't keep hitting forehand drives forever.

L-GR5: Yeah, exactly. And as well - like the big thing for me coming into the Grade 5 and trying to figure it out and having kids that don't - I still have kids that you say nine minus seven, and they say four. And coming to Grade 5 with that limited - so having the research to say, yes, they need that automaticity and justify that yes, we have to build that in.

And there's some frustration that at Grade 5 we're doing that, but just the validation that, yes, we do need that. That's not the focus.

The place where I'm at now, and of course my Math understanding is so limited, but is this whole push and pull of arithmetics versus Mathematics, and that’s something that I'm trying to figure out.

Because I understand – well, I have a limited understanding of Mathematics and proofs and that sort of thing, but I still - I guess I'm old school, because I think you still need some basic arithmetic or functioning to be able to process that.

Steven: It's two different things you're talking about. And they're very different scales.

L-GR5: I understand that, because I - so do we do Math then in Grade 1 and 2? Who's teaching?

Steven: It depends who's asking. No, it depends who's asking. A Mathematician will let you know you're not doing Math, because their professional identity is tied to - so say if you went into a Mathematician's seminar and, yeah, is that teaching Math? Is what you're doing teaching? From your perspective, no. From their perspective - because you're operating very different discourse communities.

L-GR5: So could Mathematicians do their work without foundational knowledge?

Steven: No. But what the foundational knowledge is is -

L-GR5: Is different?

Steven: Yeah.

L-Gr5: Okay.

Steven: And the way that the foundational knowledge is engaged with is different. So because your purpose is to teach others, then the way you engage with foundational knowledge is to be able to unpack and provide answers.

The way Mathematicians engage with foundation knowledge is to create - so it has to be - yeah, a lot of it has to do with procedure, a lot of it has to be so tightly and well-conceptualized at that point that it's not something you're thinking about.

L-GR5: So we could survive as a culture if arithmetics was taken away and we just had like the - you know? Like I'm just - sorry.

Steven: Short answer, yes. Other part of the answer would probably be your culture becomes something else.

L-GR5: Okay.

Steven: And then you can ask - the way to answer that question, are there cultures that exist that way? Yes, there are.

L-GR5: Sorry to get off.

Steven: No problem, that's fine. Breaks are good, remember that. What goals are currently your priorities for improving your teaching of Math and in what ways might we support those goals?

L-GR5: Okay. To create a lesson structure where basically where there is, there is - I'm not - I don’t put myself as the authority figure with all of the answers, and I'm sharing my knowledge with everyone that we - I give some parameters and then together, we discover and explore together.

Steven: Think that way for the course.

L-GR5: Oh good. And so in doing that, I need to continue to build my own confidence and knowledge. And really, like that's when a lesson study will be valuable with the - the being able to truly objectively look at what are my questioning techniques? Like what are my - there's always the pacing thing.

But what is – am I – am I giving - if a student is stuck, am I rescuing too quickly, am I guiding too much or, you know, is it just that right amount? But it’s - like the more - it's such a –like for teachers that do it well, it's such a mastery. Like it's so, it's such a long – like it's so admirable what they do, and they make it look like, yeah, I can do that. But then you go try and it's like, okay, no.

So that's the - I mean, that's the goal. To move in that direction. So I think all the - just increasing the self-awareness and the teaching style and trying things out, you know, specific things like, okay, let's try the questioning or let's try to guide without rescuing.

Or I don't even know what would be the best way to approach it, but have those goals and then try it and then come back and talk about it. Okay, this worked, this didn't. I guess with like the lesson study idea.

Steven: One of the principles that drives JUMP is that the vast majority of students can succeed with challenging Math. What do you think about this principle? As you're thinking about it changed over the year.

L-GR5: I do struggle with this a bit, because I've found just for pacing-wise, the kids that have large gaps, eventually with some of them, you just sort of - I go to, okay, we'll just teach the procedural because we have to move on, and we don't want them to be truly behind.

So I don't know if I am at the point - I think it's attainable. I personally still struggle with it because some have so many challenges right now, that we filled some of the gaps and caught them up somewhat, but then it's - or you think you've come really far with some of them, and then you go back and you talk about it, and it's gone.

And it's sort of - so that's something I'm still working with. So I don't know.

The other part that I struggle with too, especially with the group I have right now is - and I think it's more cultural too, and it's how you set up your classroom - is the whole idea of they have to be willing to do the work that the concern - like we were doing these Japanese lesson studies and in that culture, and I know I did a cross-cultural experience there.

I was in Hokkaido, and the culture is such that education is so valued, and it can be pretty intense, but that when those kids come to school, they come to work and they take it seriously, and there's family pride.

And there's everything, and with some of the groups we have, it's sort of that –like some teachers are like, well, you need to make it engaging and you need to make it exciting and other teachers, you know, say, well, no this is their responsibility.

So the whole idea of - for some of the kids to how do you get them to care? So that's hard-and at this part, like I - with some of them, and I'm sure it's horrible to admit, but it's, okay, your goal is to get five done before recess because we know you can, but if you choose not to work and if you do that, then they get the whole page done.

It's coming to a point where you can do that, where they're intrinsically motivated, and I don't know if you can change that in a Math class or not. Like if it's bigger or not.

So that's something that I do struggle with with the JUMP too is for some of them that it's challenging, it’s they don't - or the kids that just - like I’ve got one guy that just says it's too hard. And shuts down beforehand.

So then it's trying to go back and saying, no, you did this, you did this, you can do it. And then he gets it. But then to keep him doing it is really hard. So - tangent, sorry.

Steven: No, that's all, that's all. Okay, so we need the wrap-up questions shortly. But let's see back here -I think we talked about this one, that came up was around time and warm bodies. So for general challenges, do you think that might -

L-GR5: Sorry, I’m not really understanding -

Steven: So time just as a general - finding time to do all the different things. And then having extra bodies in the classroom being useful. Not necessarily - so yes, there's the research team part, but just - extra part. The other one I came up with the warm body came up about a -and constrained was around was having student teachers twice in the year.

L-GR5: Right, right.

Steven: So do you have anything to say to sort of each of those?

L-GR5: Yeah, I talked to Lissa about that a bit. The student teacher that we have right now is amazing. And it's been wonderful because it's more of a team teaching experience I had and it was set up - hopefully not – Ada so positive and kind, but hopefully not as a detriment to her but because she came before Christmas, and then after there was continuity and it wasn't starting from scratch again.

So that was really nice. But I do understand from the student teacher perspective, it does limit somewhat their overall experiences. So I don't know how appealing it is to them.

I found the beginning of the year, there were the two sets of first year student teachers who came through. I personally found, and I know from talking to a lot of staff members, that was really draining by the end of the second week, because the way they were scheduled, they'd pop in for an hour here or whatever, and it was very disruptive. And then as well, just sort of professional protocol.

One group was very positive and supportive and the other group was very critical. And I - Martina had said it's a privilege to be welcomed into someone's classroom, and I didn't feel with that second group that they felt that way.

So it was somewhat disruptive. I know – I went through the U of C program, and I know that if there's money constraints and everything else, but I know when I went through, we had three interviews with principals. We had to do a year of volunteer teaching. We wrote our essay which is - I don't know what the value of that, and I know someone who went in last year, it was just strictly on GPA.

So the concern is that sort of we're weeding people out kind of at our level. So I think it's valuable. The other thing to struggle with is that though, is that they come - the student teachers want to come to teach the Math, so then for the lesson studies and everything else, then to sort of have something in place for, like are you okay if you're going to be, you know, evaluated or studied?

And then as part of that whole long range goals to know ahead of time, okay, the student teacher's going to be teaching this chunk and this chunk. Because if, you know Ada, well, she's a Math person, and I think she's doing it with Vicky this term, but last term, she did an amazing job. I learned so much from her.

But to factor in the possibility that that, you know, this is someone who's learning, so need to allow for that. So I think it can be very positive, but, you know, how to balance everything to make it work.

Steven: Yeah, that's part of what we have to figure out as well, how we can make this work better.

L-GR5: And Ada was extremely helpful to do both classrooms, but yeah. And you know, for them to be Math people. Like Ada said her first degree was Math, but the lady that I had last year, she struggled tremendously, and she had a phys.ed. background, so it was just a matter that they check off the box if they wanted Math.

Steven: I don't know the answer to that one. I know if you are - if you want to have a placement here - if you want to have a Math placement and you select here, you will get it. That's what I understand.

Beyond that, I don't know. I'm not so much involved in it. Okay. So having participated in this interview, does anything else come to mind that you would offer to teachers at the hub school, to the research team or to JUMP developers as they embark on the next phase of the project?

L-GR5: I think it's been an extremely valuable process. It's been messy and emotional, but from that there’s been growth.

I think - I feel like we're being listened to and that hopefully we are more comfortable now saying, okay, this is too much, or this - this I'm not comfortable with yet, or what's the plan with this?

And I think it - for buy-in it's very valuable to know that you're listened to. And then it’s you can trust more, and you can - you're willing to take more of a risk or try things. Yeah, but it's been very positive.

Steven: All right. Well -

**[End of audio]**

**[Duration: 00:54:43]**