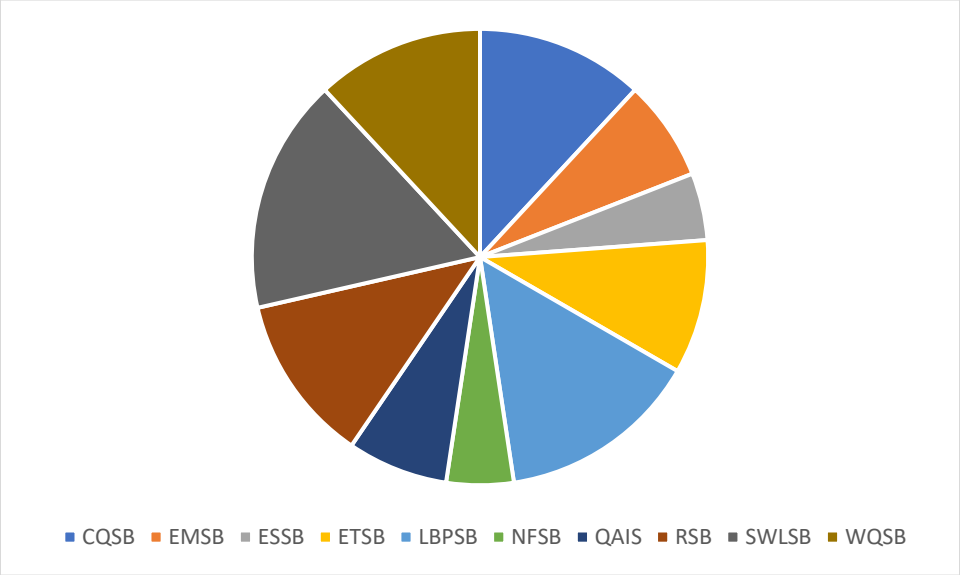
Math Summer Institute – August 2023

Cohort 5 (third year of a three-year commitment)

Number of participants: 75 Number of responses to the online evaluation 42 (56.0%)

Please indicate which Board/Association you are affiliated to



How would you rate the following?

Strongly Agree **1** A = **2** Disagree = **3** SD = **4** Neither Agree/nor Disagree **5**

Your experience booking your accommodations:

1 = 85.7% 2= 9.5% 5 = 4.8%

Your accommodations (hotel room)

1 = 78.6% 2= 9.5% 3 = 7.1% 5 = 4.8%

The meals (selection of food, wait times, service, etc.

1 = 83.3% 2 = 11.9% 5 = 4.8%

The break-out room your sessions took place in

1 = 64.2% 2 = 31.0% 3 = 2.4% 5 = 2.4%

If you provided a score of three (3) or higher for any of the statements in Question 3, please indicate how the experience could have been improved.

The air conditioner in my room made a lot of noise. I turned it off at night and opened a window. First world problems.

The staff refused to make accommodations for my guest who has a physical condition that requires walking with crutches and limits the distance traveled on foot. The clerk wanted us to pay 20$ a day for underground parking that would have made it easier for her to get around and would have compensated for the lack of handicap parking close to the Pavillons .

Our room was only available at 5:15pm on Sunday despite our arrival in time for check in at 4:00pm.

I was in the separate building and that was inconvenient. The breakout rooms were freezing cold

The cantaloupe at breakfast tasted moldy making me question the quality of the kitchen control

Upon arriving, I was given a room right above the bar with very loud music. Very hard to go to bed to get reading for the workshop, they shouldn't give those rooms to the people attending . I asked to move room, they gave me a new room, but TV wouldn't work.
It was an amazing experience!

Please indicate to what extent you agree or disagree with the following statements:

I received all the information required regarding the Math Summer Institute

Strongly Agree = 92.8% Agree 4.8% Disagree 2.4%

I received the information regarding the Math Summer Institute in a timely manner

Strongly Agree = 92.8% Agree 4.8% Disagree 2.4%

The goal of this PD experience was clear to me prior to my arrival

Strongly Agree = 88.1 % Agree 11.9%

Mathematics is something I'm good at

Strongly Agree = 28.5% Agree 69.1% Doubtful = 2.4%

If you were to observe another teacher's math classroom for one or more lessons, what are three (3) things you would look for in order to decide whether or not the instruction is of high-quality?

- depth of student understanding - student engagement - how students did on an eval related to the topic
1- If the teacher is using a smart board or the white board 2- If the teacher lets the students come up with solutions for problems 3- If there is use of manipulative
1) Are the tasks presented truly suited the lesson goal? (Do students know what big ideas they are working with? Are the visuals, chosen problems and type of tasks strategically planned tp help kids work with the lesson goal?) 2) How useful is the teacher's questionning? (Does is it direct students to examine their own thinking? Does thr questionning allow students to make sense themselves of the math, or offer support at the right moment? Does it encourage general confidence in students? 3) Is the teacher and are students in some way evaluating their understanding? (Are there chances for students to share their thinking in some way with the teacher? Is there a way for students to check their thinking with others? Do students seems comfortable changing their thinking when needed? Are students questionning solutions when they don't make sense?)
1) students engaged 2) use of manipulatives to provide hands on experiences 3) teacher acting as a facilitator and using questions to guide students to problem solve and learning
1) The type of tasks being presented 2) Sense making coming from the students 3) Math talk
1. Hands-on activities (use of manipulatives) 2. Questioning techniques 3. Rich Math tasks
1. Is it a rich task that builds discussion? 2. Are the students the ones providing the strategies and building context? 3. Is the teacher using a just-in-case scaffolding method, or just in time?

1. Tasks chosen: If the appropriate task chosen supports the learning goals and enables students to do the sense-making. 2. Questioning Process: If the teacher uses questioning during instruction and is able to elicit student discourse. 3. If the teacher addresses students' misconceptions
Activities teachers use to promote group work/math talk, asking students to share strategies instead of giving strategies to students, how much the teacher observes her class
classroom management, diverse teaching and learning strategies, connection with students
Clear guidelines, differentiation, engaging.
Clear learning goals scaffolded to help students make sense of math concepts rather than learn an algorithm. Students explain and justify their thinking in a respectful manner- they are the ones making sense of the math while teacher facilitates discussions. Teacher uses open-ended questions and students' previous knowledge to help them make their own strategies and make sense of the math.
Do the kids talk to each other to figure out the concept being taught? Is there any hands-on learning opportunities? What kind of feedback does the teacher give to support the students' learning?
Engagement of students, problem-solving situations for students as opposed to I do/you do traditional teaching and formative evaluation to verify student understanding.
Engagement, discussions, success
Engaging all students in the class Rich questioning – open ended questions (TQE process) Students are given the opportunity to justify their answers and those of others Use of manipulatives
Floor-to-ceiling activity Availability of math tools and manipulatives Opportunities for students to have math conversations
Hands-on learning Collaborative learning/discussion Student centered

How are they introducing a topic. Are they using manipulatives to strengthen understanding. What types of questions or means are they using to check for student understanding.
How the teacher responds to the students answers. How interactive the students are in the lesson. Giving the students enough time to figure out then formulate how to give their answers
if students are making math sense and problem solving if students are talking and engaged if tasks are relevant
Learning goal is clear Students' have the opportunity to interact and use manipulatives to construct their learning Teacher is observing students and providing "just-in-time" interventions to help scaffold learning, as required
Learning objective, student engagement to the lesson, strategies to connect concepts to students
multiple ways to show concept engaged students ways to keep students engaged through extension questions
Open ended questions Math talk by students Hands on small group activities
Questioning techniques, rich tasks, student interactions
rich math tasks engagement manipulatives
Rich tasks Math talk Manipulatives
Rich tasks Student to student talking Students working out problems together
Student engagement, student discourse, rich tasks

Student engagement, student understanding after they begin working, student ability to help explain to their classmates.
student involvement student understanding teacher knowledge
Student participation/engagement Use of manipulatives Student discussions
-Students are doing the thinking -Manipulatives are bring used -Students are completing tasks that have many ways to start, progress and achieve a result.
Teacher connects with students. Content is accessible to students. Able to explain content in more than one way.
The students make the sense making. The students do the talking. Students provide the solutions.
The task The questioning The engagement of the student
They have student thinking tasks, manipulatives are used or easy access, not just teaching algorithm but strategies to solve a problem.
Time given for mathematical thinking Manipulatives being used Classroom feedback
Use of manipulative, small group instructions, prepared for plan A,B,C and a plan where they’re lying to get their teaching goal.
Wait time for students' answers, student engagement and use of hands on learning.
What type of tasks are given in relation to the concept. How are the students creating thier strategies and making sense. What type of questions are the students and the teacher asking. When is the teacher scaffolding and with which students. What type of assessment does the teacher use.

Please indicate how often you invite student-invented strategies prior to teaching an algorithm or procedure

All the time: 9.5% Often: 47.6% Sometimes: 38.1%

On a rare occasion: 2.4% N/A (Administrator) 2.4%

In your current context, for every ten (10) lessons you teach, on average, in how many lessons are the students using manipulatives

Zero 2.4% 1-2 33.3% 3-5 21.4% 6-7 21.5%

8-10 19.0% N/A (Administrator) 2.4%

Based on your response, briefly list and describe some factors that influence how often manipulatives are used in your lessons (e.g. knowledge of how to use them, topic/content, availability, time, etc.)

Topic/content and time. I have started making manipulatives available to students if they need them (once we've gone over how to use them and why they may be helpful). They are also available to students during evaluations.
How well I have planned and thought through a particular set of lessons My knowledge of how manipulatives can be used with certain goals
availability, time constraints
Unfortunately, I do not have many manipulatives available in my classroom. I have been trying to get some purchased but the answer is always no funds available
Lack of creativity/time to plan specific tasks in which manipulative would be fully relevant
They are not used enough and I definitely need to implement them more. Sometimes it is due to availability, time as well as being more creative on my part on how to integrate them into the lesson.
I am currently slowly developing lesson thy have manipulatives or additional hands on activities. Creating a few new lessons a year has helped me to slowly build up a treasure chest of activities to pull out and use.
time constraints and feeling pressure to complete the curriculum
if I know how to use them, their availability, relevance
Lack of materials and resources within my school. Even if we have the materials, often there is only 1 set to share among 4 classes... so not everyone has the chance to use them with their students.
Lack of access to manipulatives, lack of knowledge on how to use them effectively

I struggle with the use of manipulatives in several of the math units at the grade 7/8 level. It's logical in fractions / decimals etc but I struggle with use in algebra, lines/geometry or even percent at this secondary level.
Knowledge of how to use them, topic, time. I am motivated to use them more often this year.
Time constraints. It can be difficult to find manipulatives for cycle 2 secondary math.
How to use them, topic/contente but most of all, availability. Often, we don't have the right manipulatives.
How to use them and availability
Time is the biggest factor. Some topics don't require the manipulatives for the whole class. Some topics need manipulatives in small groups, others for the whole class.
I use manipulatives especially when teaching topics as: perimeter, area, surface area and volume, fractions and ratios, solving linear equations, factoring quadratic and cubic equations, analytic geometry, probability, statistics, etc. I think students have a better understanding of the material, they get engaged easily and they retain more than they would by just following formulas on paper. In a word, Math suddenly makes more sense to them.
don't have enough don't know how to use them especially algebra tiles
Availability of manipulatives, time (mostly to plan)
I am a resource teacher and find that when I can students to work with the task it deepens their understanding of the concept.
Availability of manipulatives - even if I have them , time constraints,
1. Availability of the manipulatives. 2. Time 3. Topic
They are often used in the earlier stages of teaching a concept(place value, add, sub, fractions, etc.) to allow students to manipulate and make sense of the math. Once they have a good understanding of the concept, they become more confident and are able to use a white board or math operations (paper-pencil calculations) to complete the work. Some students require more time with the manipulatives, so I keep them on hand and available most of the time.
Topic Availability of manipulatives Purpose of the lesson
I teach at the high school level, so availability, time, and topic are all factors that influence these decisions.

Some factors that influence how often I use manipulatives in my classroom are: -Knowing what manipulatives would be best suited to help the students understand a particular concept -The time needed to use the manipulatives - Having enough of a certain type of manipulative - Knowing how much should be included for each student to use. (For example: What would one base ten kit/pattern blocks/etc.. look like for each student)
I have a few manipulative available in my classroom, and I use them as often as I can. To introduce a new topic, I always make sure students have access to manipulatives and I demonstrate the use of those manipulatives as well.
If I can figure out a way to incorporate them, I do. I love using them, love games and exploration, etc
It depends on the topic and which step of learning we are at. It also depends how much of the materials I have.
Topic introduction, differentiation of learning styles, applying concepts learnt.
Students use calculators when exploring exponents as well as calculating big numbers Students use geoboards when exploring Area and Perimeter They use pattern blocks to represent fractions and chips to represent equivalent fractions Multiplying decimals using base ten blocks Manipulatives are available for students to use if needed
visualizing the problem, assessing for comprehension, willingness to "play" with math, thinking outside the box.
Manipulatives are always easily accessible and ready to be used at any moment in my classroom
Availability of manipulatives in the classroom.
I teach kindergarten so all the time!
All manipulatives are always available & highly encouraged daily to be used during each class.
I am a resource teacher and usually my students are on the lower level of the class struggling. I use a variety of manipulative all the time in order to help bridge thier understanding of the different concepts they struggle with. I often give them a choice or multiple types to see which they relate to as well as to see if they have a true understanding. Time is limited for me as they are often small groups for 20 minutes.
n/a, although I think all classes should have manipulatives on hand to support student learning.
I work in elementary school resource with children who struggle to understand basic concepts. We often use manipulatives to make the work more visual, as a tool for students to explain their thinking, and a way to solve math problems without resorting to pen and paper. Not all problems will require manipulatives but they are always available to the students and on hand given the space we work in.
The availability of manipulatives

Please indicate to what extent you agree or disagree with the following statements:

The content of the workshops at the Summer Institute was representative of my needs as a Mathematics teacher

Strongly Agree = 71.4% Agree 23.8% Disagree 2.4%

Neither Agree/Disagree 2.4%

The amount of content in the breakout sessions was appropriate

Strongly Agree = 76.2% Agree 23.8%

The pacing of the breakout sessions was appropriate

Strongly Agree = 73.8% Agree 16.7% Neither Agree/Disagree 9.5%

If you disagreed with any of the statements in previous question, please indicate why:

Lots of fractions and decimals.....

I thought the refresher as a graduate would be different but it was all the same things I've done in the past.

Unfortunately most of us don't spend a lot of time teaching statistics. Spending time on a different part of the curriculum would have been better for me.

Honestly… the sessions went by so fast! I wished we had more time together!

What support mechanisms do you feel your school board could provide to help you continue to grow professionally after this PD experience?

- periodic check-ins - funds for math manipulatives - subject-specific PD
networking observations just know he is always there for anything i need
More PD. Sharing with teachers who teach the same level/courses.
more access to manipulatives, etc...
Continue creating and testing rich tasks for specific instructional goals
I'd love to have pd sessions where math teachers teaching the same curriculum could use the ideas from this workshop to create some ready made lessons/ ideas to help implement in the classroom.
More professional development for math teachers giving them real application based teaching strategies
My board could hire a math/science consultant.
It would be nice if more manipulative were provided to the school and if there could be a pd session where we share our experiences with other math teachers in our board. There never seems to be any time given for teachers to work with other teachers from other schools, we barely have time work with the teachers in our schools.
It would be nice if our school board continued to offer training on just in case and just in time scaffolding. I also think that we all need a document camera and POST-IT Super Sticky Notes, to be able to implement all the rich tasks that we learned in these sessions.
Access to more manipulatives, and release time to work with teachers of the same level/school.
Release time to build lessons and projects
The availability of manipulatives, and example lessons.
Release time for visits to other teachers' classrooms to see how they are using what they learned at the SMI in their classrooms.
How to engage students without manipulatives
Support in building or identifying appropriate rich tasks appropriate to the curriculum.
-Continue building bank of valuable tasks that teachers can access -Opportunities to directly plan units with colleagues teaching in a similar fashion
Continued opportunities for teachers to connect with other teachers from different schools/boards to discuss what works / what doesn't.
Provide time for teachers to collaborate and plan rich tasks together.
Follow-up and support based on the techniques presented at the institute

Sharing of resources would be wonderful Additional PD
Form a PLC for teachers who have graduated from the Summer Institute.
Opportunities for teachers to visit other classrooms within our school board.
Manipulatives!
Continue to provide refresher sessions. Possibly offer a workshop day on a school basis to give a summery/highlights of the program to a whole school team to get the whole staff on board
Special budget for math manipulatives, so we can implement everything learn during the workshop. The class budget is very limited and it's for all subjects. I cannot spend it all just for math unfortunately.
Check-ins/workshop meetings with our consultants by cycle or grade level, on ped days.
Our math consultant has already offered to schedule a school visit with a planned math lesson in class to help support me with the math concepts I have struggled with in the past.
Work with our consultants to develop rich math tasks that relate to the concepts being taught to our students.
Follow-up sessions would be nice!
More sessions with Juli and her team. More examples of the way they teach as the year progresses so we don't forget what was learned and remember to implement it.
Access to manipulatives, changes in the Ministry exams.
Make manipulatives more available
We need to find means of promoting the Shifts in teaching Mathematics to all the schools within our board. This is not an easy task, but we are working at a multiplicator model to extend this to all our school teams.
Allow us the opportunity to do this yearly as a refresher
I think creating a space where the manipulatives we used with a mini description + task was available for us to access would be great. We do so many that it can be easy to forget all the tasks, so having a small even slides presentation on each one would be fantastic.
Support in helping me find and create quality tasks.
Have PLC groups to keep reinvesting our knowledge from the sessions. In my board, what Saba and Peter Clarke did in the first years of this workshop was great. We met monthly and expanded our knowledge and the. Tested it in our classrooms.
Time to work with other board participants to develop activities and have a central bank of ideas to access.
Time to plan!
Yearly short sessions…
Follow up sessions as a group so we can continue to improve how we implement different strategies in our instruction. Also, for us to share ideas and improve how to share with teachers who did not attend.

From the list of teaching practices below, which three would be your top priority for professional development? [First choice]

Designing rich math activities that allow for student sense-making **47.6%**
Eliciting student thinking **14.3%**
Establishing and maintaining expectations for student participation **2.4%**
Facilitating rich math activities that allow for student sense-making **21.4%**
Identifying an instructional goal
Orienting students to each other's ideas
Recognizing students as competent contributors towards developing understanding **7.1**%
Representing student thinking and key ideas **2.4%**
Responding to student thinking **4.8%**
Teaching towards an instructional goal

From the list of teaching practices below, which three would be your top priority for professional development? [Second choice]

Designing rich math activities that allow for student sense-making **16.7%**
Eliciting student thinking **14.6%**
Establishing and maintaining expectations for student participation **4.8%**
Facilitating rich math activities that allow for student sense-making **28.6%**
Identifying an instructional goal **7.1%**
Orienting students to each other's ideas **9.4%**
Recognizing students as competent contributors towards developing understanding **9.4%**
Representing student thinking and key ideas **9.4%**
Responding to student thinking
Teaching towards an instructional goal

From the list of teaching practices below, which three would be your top priority for professional development? [First choice]

Designing rich math activities that allow for student sense-making **16.8%**
Eliciting student thinking **16.8%**
Establishing and maintaining expectations for student participation **9.4%**
Facilitating rich math activities that allow for student sense-making **7.1%**
Identifying an instructional goal **9.4%**

Orienting students to each other's ideas **14.4%**
Recognizing students as competent contributors towards developing understanding **7.1%**
Representing student thinking and key ideas **9.4%%**
Responding to student thinking **7.1%**
Teaching towards an instructional goal **2.4**

What content area or curricular goal(s) do you feel least prepared to teach conceptually?

High school content, specifically CST4
Decimals
Word problems, specifically multi step word problems (end of year Cycle 3 government exams).
Converting units of measurements
Word problems
Designing rich tasks
Fractions
Reading or Writing with multiple levels in a classroom, I am talking levels 10 - 80 in one room. How would you facilitate reading centers or groups for example?
Algebra; the HS group had a chance to work with algebra tiles. I teach grade 7 and 8 and I think this would be a great resource.
Generally I feel capable of teaching most topics conceptually but I always appreciate new rich tasks. It is very hard to find good ones!
I would enjoy PD regarding percentages/decimals/calculating discounts.
Time, volume,
fractions
Analytic geometry using manipulative or digital resources
Finding rich tasks
Place value concepts for kids with special needs.
I feel comfortable with most topics it always depends on the cohort coming up and how much instruction they come with
I would like to see the evolution of concepts by Mathematical strand, in order to better equip teachers to be able to support or extend student learning.
The breakdown and use of the learnt tasks through use of situational problem.
algebra
operations with fractions, decimals cycle 3
Measurement, time and basic computation
Statistics
Designing a bank of rich-tasks
Probability

Higher level mathematics
Fractions
When I first started, I was teaching garde 4, but I'm now teaching grade 5-6. I would love to go deeper in all the math concepts to be able to teacher to the stronger students.
Questioning techniques Student misconceptions Rich Tasks to support our curriculum essentials More ideas for effective teaching in the classroom Situational Problems-using DNA strategies
Developing situational math problems for both informal and formal assessment (competency 1)
How to plan rich task units.
algebra and functions
Content areas I feel least prepared to teach conceptually is time and measurement
As much as I enjoy Fractions, I still struggle with helping students represent fractions as a decimal and percent.
Rational expressions, Sn4
probability
Elapsed Time
Learning gaps in relation to the struggles we have faced with a reduced curriculum for several years during COVID
For kindergarten rich task
Support in developing learning targets with corresponding math tasks that help to focus our instruction.

Is there any other feedback or recommendations that you wish to provide the organizing committee?

Thank you again for organizing this pd!
Your work in organizing is much appreciated! Thank you for the high-quality PD opportunity.
Thank you to the organizing committee for your dedication and warming welcome whenever teachers join these PDs! I always leave these workshops feeling lifted as I thoroughly enjoy the comradery between teachers willing to learn to be better educators for their students.
It was awesome!!! We do have a lot of free time on the last morning. Teachers who have to drive several hours to get home would probably like to leave earlier without missing out on the great prizes you guys give away the first and last year.

I enjoyed online workshops that compliment the DNA program
This was really fun! I wish we could always do this and explore more areas of mathematics. Getting together with other schools and other boards was great. I wish we had more opportunities to work together to develop activities to use with our students.
I would really love more opportunities to have pd that is directly related to high school mathematics
Great job...
Another great year! I am sad it was my last :(
no, it was a great time and this years presenter was great!
The math summer institute was a fabulous experience. I am so glad I got to be a part of it. Can we do something like this for English?
Keep up the great work!
I put that I didn't receive the information in a timely manner, but that is not the fault of the organizing committee. My school board did not have a consultant and I was not provided with any information that should have come from them.
Although it would be very difficult - allow teachers to attend different sessions that align with the grade levels that they are teaching.
No :) wonderful rich event like every other year!
Thank you so much for everything, I wouldn't change anything, I loved everything!
Thank you to all the people who were involved in organizing these wonderful sessions of learning, discovery and meeting great people!!!Thank you so much for helping me grow as an educator, I am more confident as a math teacher and I have a better direction on how to better support my students.
The program was excellent! I believe that completing this program has helped me to reflect on my own teaching experiences and has helped me learn new skills to help me grow and improve my teaching practices. Thank you for providing enriched learning opportunities.
This was an enriching experience which really helped me to improve my competence and confidence as a Math teacher. Thank-you!
keep up the great work!
Thank you so much!!
Thank you for your hard work.
Hosting the SMI the week of August 13th closer to the start of the school year instead of the first week of August. I would enjoy more PD like this please!
I love the Math Institute. I now love math...and my students love math.
It would be nice to have a few sessions from the key players in DNA team (Julie, Ed, Thomassina). Perhaps they can provide a mini-workshop on a given math topic, and participants can choose to attend one of the 3, similar to the sessions they provided during the webinars.
It has been an absolute pleasure to have had the opportunity to participate in the Math Summer Institute. Thank you very much!

I am grateful to have had this opportunity, I would love to be back next year for an extra year at the grade 8 level.

It's a small thing, but the final lunch was really built up to be a special event but it really was disappointing. The draws for prizes was nice but that's all there was. There was nothing special about the dinner or any final farewell message etc. Perhaps in past years in was different.

Winner of the $ 50 Gift Card chosen at random from among respondents who self-identified.

Jade Parent Central Quebec School Board