

# Elementary Math Focus Report

## November 2018

Submitted to LCEEQ  
Prepared by the EMF  
Organizing Committee

Under the auspices of the LCEEQ Professional Development Subcommittee (PDSC), in collaboration with MaST, the Mathematics, Science and Technology Committee made up of the Math and Sciences Subject Consultants, the **Elementary Math Focus Project (EMF)** was initiated as a pilot project in August 2015. More than one hundred teachers and Mathematics Consultants from across the province were invited to participate in an intensive four-day residential professional development session held at Manoir St. Sauveur. The pilot originated from a proposal to offer a three-summer training to Elementary Math teachers. The pilot was conducted to ascertain whether the proposed animation team would be well-suited to meet the goals of the project.

**Dr. Juli Dixon**, University of Central Florida, one of the founders of DNA Mathematics (<http://www.dnamath.com>) and three of her colleagues were engaged to animate the workshops. The experience proved to be very successful. As a result, the three-year training model originally conceived was therefore fully endorsed by the community and LCEEQ. Participants in the pilot were invited to make a commitment for the subsequent two summers. Seventy percent agreed and have affectionately been known as “Cohort One” ever since.

School Boards/Associations were invited to commit to a long-term training model that would see participants attend sessions over three summers. In addition, participants would be provided with a minimum of two professional days of training by the local Consultant(s) during the regular school year following each of the summer sessions.

The original model designed to include three Cohorts of teachers would have seen the project continue through 2020. An agreement was reached with DNA Math, to deliver:

Summer 2015	Cohort One	Pilot	
Summer 2016	Cohort One	- Year Two	Introduce Cohort Two
Summer 2017	Cohort One	- Year Three	Cohort Two – Year Two
Summer 2018	Cohort Two	- Year Three	Introduce Cohort Three
Summer 2019	Cohort Three	- Year Two	
Summer 2020	Cohort Three	- Year Three	

Following the Summer 2016 workshops, the original plan was altered to introduce Cohort Three a year earlier to take advantage of the enthusiasm within the community. It must be noted that school teams were encouraged, thus opening the possibility of administrators joining the training process. The amended schedule became:

Summer 2017	Cohort One - Year Three	Cohort Two – Year Two	Introduce Cohort Three
Summer 2018	Cohort Two - Year Three	Cohort Three – Year Two	
Summer 2019	Cohort Three - Year Three		

The planning and organization of the EMF Project is the responsibility of the LCEEQ Professional Development Committee. The present members of the **EMF Steering Subcommittee** are:

- Cheryl Cantin, Elementary and Secondary Math Consultant – Eastern Township School Board
- Saba Din, Elementary and Secondary Math Consultant – Sir Wilfrid Laurier School Board
- Lisa Lorenzetti, Cycle 3 Elementary Math Teacher at The Study School representing QAIS/AJDS and facilitating the training for these Associations
- Franca Redivo, Ministry of Education - Direction des services à la communauté anglophone (DSCA)
- John Ryan, LCEEQ Coordinator

During 2017-2018 the Steering Committee convened eight meetings. In addition, several working sessions were held in which particular members focused on specific tasks (e.g. revise content proposed by the DNA team, order manipulatives for the Summer Institute...).

In the Fall of 2016, School Boards/Associations were required to present a written three-year professional development plan as to how the teachers in the Summer Institutes, and eventually all Elementary Math teachers, would be supported in their ongoing learning of conceptual Math. Each Board, and a combined Quebec Association of Independent Schools (QAIS) and the Association of Jewish Days Schools (AJDS), submitted proposals to the LCEEQ Professional Development Subcommittee (PDSC).

In the Spring of 2017, the Boards/Associations were asked to submit a progress report on what was accomplished during the school year. A summary of the reports follows. It should be noted that the New Frontiers School Board opted into the project with the initiation of Cohort Three since the Board already had a Math initiative in progress. That is the reason their PD plan begins with Summer 2017 and is not included on the summary chart.

<u>CSL</u>	<u>CQSB</u>	<u>EMSB</u>	<u>ESSB</u>	<u>ETSB</u>
<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• Ongoing VC sessions from Nov. 2016 monthly through to June 2017</li> <li>• Collaboration between teachers with ESSB to do co-planning in Nov. 2016</li> <li>• Modeling and team-teaching in multiple schools in Jan. 2017</li> <li>• Webinar possibly offered in April 2017 (to be confirmed)</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 1-day follow-up session with Cohorts 1 and 2 teachers</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• In-school PLCs (for both SI and non-SI teachers)</li> <li>• 2-day training for Cycle 1 and 2 teachers in schools (on modeling instruction)</li> <li>• PED day session for Cycle 1 and 2 teachers in Oct. 2016</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• ½ day workshop in October 2016</li> <li>• Full day workshop in February 2017</li> <li>• ½ day workshop in May 2017</li> </ul> <p>For all Cycle 1 teachers:</p> <ul style="list-style-type: none"> <li>• 3 days of release for PD on teaching math conceptually</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 2 days per teacher for individual support</li> <li>• 1-day follow up with all teachers offered over 2 days in April 2017</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for Cohort 1: Nov. 2016 and Feb. 2017</li> <li>• 2 full days of PD for Cohort 2: Sept. 2016 and Jan. 2017</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• In-school PLCs (for both SI and non-SI teachers) with meetings at least once per month</li> <li>• Bimonthly visits and support for each school</li> </ul> <p>For administrators:</p> <ul style="list-style-type: none"> <li>• Bimonthly sessions focused on math pedagogy</li> </ul>

<u>LBPSB</u>	<u>QAIS/AJDS</u>	<u>RSB</u>	<u>SWLSB</u>	<u>WQSB</u>
<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for Cohort 1 and 2 (dates not indicated)</li> <li>• Scheduled classroom visits for individual support for each SI teacher in Cohort 1 and 2</li> </ul>	<p>For SI Teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for all SI teachers (dates not indicated)</li> <li>• Each teacher provided with Making Sense of Math for Teaching (DNA book) for their level</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• 1 ½-day workshop and 1 full day workshop for elementary and secondary cycle 1 teachers (dates not indicated)</li> <li>• Release time offered to teachers interested in participating in classroom visits</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for Cohort 1 (dates not indicated)</li> <li>• 2 full days of PD for Cohort 2 (dates not indicated)</li> <li>• 6 ½-day releases for Cohort 1 teachers</li> <li>• 6 ½-day releases for Cohort 2 teachers</li> <li>• Schools visits and in-class support</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• Project with 13 teachers and 5 days of release for PD and in-class support</li> </ul>	<p>For SI Teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for all SI teachers: Oct. 2016 and Mar. 2017</li> <li>• Monthly PLC meetings and classroom visits with smaller group of SI teachers</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• 3 full days of PD for teachers new to teaching math</li> <li>• Support to teachers and in-school PLCs</li> </ul> <p>For administrators:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD on math pedagogy: Sept. 2016 and Mar. 2017</li> <li>• Monthly PLC meetings focused on support/leading math PLCs in schools</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 2 full-day PD for all SI teachers in Nov. 2016</li> <li>• 1 full-day session in Spring 2017</li> <li>• School visits to observe teachers' practice of SI lessons</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• Ongoing support to schools</li> </ul>

In the **Fall of 2018**, the Boards/Associations were once again asked to submit a progress report. The following provides a summary of the information provided at that time.

<u>CSL</u>	<u>CQSB</u>	<u>EMSB</u>	<u>ESSB</u>	<u>ETSB</u>
<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• Ongoing sessions – some VC other face-to- face from Oct. 2017 monthly through to June 2018</li> <li>• Collaboration between teachers with ESSB to do co-planning in Sept. 2017</li> <li>• Modeling and team-teaching in multiple schools in during the year</li> </ul> <p>For all teachers No specific actions planned or executed</p>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 1-day session with Cohorts 1 on building lead teams</li> <li>• 1-day session with Cohorts 2-3 on Math talk – eliciting student thinking</li> <li>• All SI Cohorts requested sessions by cycle – four held</li> <li>•</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• In-school PLCs (SI and non-SI teachers)</li> <li>• 2-day training for Cycle 2 + 3 school teams – goal setting</li> <li>• PED day all teachers by region – engaging students in sense-making</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• Included in the EMSB Board-wide numeracy initiative – placed in a separate cohort given their advanced training as part of SI</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• All Cycle 1 and 2 teachers have received training on a release basis</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• Individual follow-up. TQE lessons co-written and co-taught by the teacher and consultant plus debriefing. Focus on raising the level of classroom discourse.</li> </ul> <p>For all teachers</p> <ul style="list-style-type: none"> <li>• A two-day workshop - all Cycle 1 teachers</li> <li>• As a result of the workshop, a small working group of cycle one teachers was formed and met several times over the year to rewrite, test and evaluate a situational problem for grade 2.</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• Three full days of workshops offered by grade bands as requested by participants</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• Five schools developed communities of practice - the consultant worked with SI teachers and others</li> <li>• School visits scheduled on a Six-week cycle</li> <li>• Introduction to all Cycle 3 teachers</li> </ul>

<b><u>LBPSB</u></b>	<b><u>QAIS/AIDS</u></b>	<b><u>RSB</u></b>	<b><u>SWLSB</u></b>	<b><u>WQSB</u></b>
<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for Cohort 1-3 working on “Number Talks” Differentiating Math instruction, building and sharing TQE tasks</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• PD sessions for teachers who did not attend the Summer Institutes – along with SI participants. All cycles. Highlighting plan for vertical planning and backwards design. English and French teachers together</li> </ul>	<p>No report was submitted at the time of publication of this report.</p>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 4 days of PD for Cohort 1-2</li> </ul> <p>Day 1 •Unpacking the curriculum,</p> <ul style="list-style-type: none"> <li>• digging into the essentials of the curriculum</li> <li>• teaching to the big ideas</li> </ul> <p>Day 2 • Guiding discussion,</p> <ul style="list-style-type: none"> <li>• Use of effective questioning to deepen students’ understanding.</li> <li>• Developing learning trajectories and setting learning targets</li> </ul> <p>Day 3 • What/ why we assess</p> <ul style="list-style-type: none"> <li>• Formative assessment – using evidence to guide instruction</li> <li>• Creation of formative assessment tools</li> </ul> <p>Day 4 Sharing progress</p> <ul style="list-style-type: none"> <li>• Reflecting on implementation</li> <li>• Long-term planning</li> </ul> <ul style="list-style-type: none"> <li>• 4 days of PD for Cohort 3</li> </ul> <p>Day 1 5 instructional shifts</p> <ul style="list-style-type: none"> <li>• Group norms</li> <li>• TQE</li> <li>• Common lesson planning</li> </ul> <p>Days 2-4 as above.</p> <p>For all teachers:</p> <p>5 instructional shifts TQE Process Early numeracy, place value, addition &amp; subtraction Types of problems 2-D Geometry Measurement</p>	<p>For SI Teachers:</p> <ul style="list-style-type: none"> <li>• 2 full days of PD for all SI teachers</li> <li>• October: using differentiation strategies, including open-ended questions and parallel tasks. Using elements of a “launch” to support student sense-making</li> <li>• May : using the TQE Process to teach through problem-solving. Making sense of Mathematical Big Ideas</li> <li>• PLC (optional) - 18 participants</li> </ul> <p>For all teachers:</p> <ul style="list-style-type: none"> <li>• 3 days to expose Cycle 2 teachers who did not attend the Summer Institute about the philosophy around teaching shared by the DNA Team. In the Institutes</li> </ul> <p>For administrators:</p> <ul style="list-style-type: none"> <li>• PLC meetings focused on support/leading math PLCs in schools</li> </ul>	<p>For SI teachers:</p> <ul style="list-style-type: none"> <li>• 3 full-day PD for all SI teachers in December 2017</li> <li>• 1 full-day session in March 2018</li> <li>• School visits to observe teachers’ practice of SI lessons – March-April 2018</li> </ul> <p>For all teachers:</p>

At the end of each Summer Institute the Steering Committee reviews feedback provided by participants gathered in online surveys. In August 2016, for example, there were three strands offered: K-2, 3-5 6-8. The extension to Grade 8 was to accommodate Secondary School participants. What occurred was that the content for 3-5 was primarily 3-4, while the 6-8 took on a secondary school focus leaving many of the Elementary Cycle 3 teachers (Grade5-6) caught between.

After this gap was identified, the Consultants on the Steering Committee opened a dialogue with the DNA team to restructure the grade bands and content to better meet the needs of Quebec elementary school teachers. The DNA team created a revised content (decimals) for August 2017 based on our discussions. This content seemed to be positively received by the teachers.

The following grade bands were offered in August 2017: K-2, 3-4, 5-7. It should be noted that Secondary School teacher participants were not happy that the content was returned to a greater focus on Cycle 3 elementary. These teachers were reminded that their invitation to be part of the EMF project was always intended to be from a “*Response to Intervention*” (RTI) perspective. It was not supposed to be from a Secondary School content perspective. The majority of Secondary teachers returned, the Feedback Survey from August 2017 included requests for Secondary School content.

In the Summer of 2018 a Fourth Cohort was introduced which included a “Pilot” dedicated Secondary Group (Grade 8-9). This was to address the feedback from the milieu that there needed to be some carryover from Elementary to Secondary in order to maintain the same focus on conceptual learning.

The response to the August 2018 questionnaire was most encouraging given the number of respondents (Cohort Two was 68.6%, Cohort Three was 79.5%, Cohort Four was 70.8%). The compiled results of the survey are found in the annexes of this report.

It can be readily understood that a project of this nature and scope is a major undertaking and a costly endeavour. Given that participants are giving up part of their summer vacation every effort has been made to ensure high quality workshop sessions in a comfortable environment. Arrangements have been made with Manoir St. Sauveur to offer special rates to family members so that many of the participants can take advantage of being accompanied by family and friends during their stay. All expenses were covered for participants choosing double occupancy while those opting for single or family occupancy were expected to cover the difference.

Although all funding is made possible by the Canada-Quebec-Agreement, at present, the project is financially supported by two budgets. LCEEQ is responsible for defraying the cost of the animation team, while a Ministry Math and Sciences budget covers costs related to accommodation and materials.

The following is an overview of the cost of the Summer 2018 session:

**Animation:** There were nine animators needed to accommodate three Cohorts (a total of more than 350 participants in the combined three Cohorts. Four animators were in attendance for five days, while five additional animators were required for two days.  
Cost: **\$157 499.**

**Accommodation/Meals**      **\$258 671.**

**Travel subsidy for those at a distance**      **\$58 166.**

**Materials \$ 11 952.** (seven thousand dollars of manipulative materials were distributed to the schools following the workshops)

**The total for the August 2018 Summer Institute: \$486 288.**

Considering that there were roughly 350 teachers and Consultants involved, the overall cost was approximately fourteen hundred dollars per participant.



# Appendix A

Cohort Two – Year Three  
Started Summer 2016

## Summary of the Feedback from Cohort Two – Math Summer Institute 2018

Number of respondents: **n= 83** (70.3%)

	Excellent (1)	(2)	(3)	(4)	Poor (5)	Comment
<b>Experience booking accommodations</b>	58 70.0%	17 20.2%	6 7.4%	2 2.4%		<p>The hotel person in charge of group reservations was not helpful, inflexible and she did not return emails</p> <p>Confirmation of booking should be quicker (I had to wait 2 months before my booking was confirmed).</p> <p>The hotel's communication was not very good. Emailed many times with no response.</p> <p>The booking process always seems tedious and not done directly.</p> <p>Availability of room again very difficult;</p> <p>I called to adjust my booking to add my daughter. They lost it.</p>
<b>How would you rate accommodations</b>	55 66.3%	24 28.9%	2 2.4%	2 2.4%		<p>This year our room had no air conditioning. We notified the front desk every single day several times. They kept telling us they would send someone and at one point they did and told us it worked. When we returned back to our room that night we found out it still didn't work. When we told the front desk, we kept getting the we will send someone answer.</p> <p>Too much climb</p> <p>There seemed to be some renovations going on, I am sure it will be better next year Housekeeping was done really late during the day. Upon arrival, the room was not ready until almost 5:00. (This is all very petty though (2)</p>

<p><b>How would you rate the meals</b></p>	<p>54 65.1%</p>	<p>22 26.5%</p>	<p>6 7.2%</p>	<p>1 1.2%</p>		<p>Meals were not as good as previous sessions.</p> <p>I would have like to have been able to eat some meals outdoors as in previous years (2)</p> <p>There were not enough snacks provided for everyone</p> <p>Break time items served on the conference rooms rather than the hall to avoid long line ups</p> <p>As for food, it was tough to get clean spots this year if you went for meals later than the main crowd. No clean cutlery, no water or coffee service (and this is at least an hour/45min before the end of the buffet hours).</p> <p>The line-up for getting the food was long at times.</p> <p>The food was less then varied. (2)</p> <p>In the past they listed major allergens on a card beside the food. I have been gluten free for 11 years for medical reasons. Meal time was stressful as I was trying to guess what food was safe. My condition does not require individual meals cooked for me (like some of my family members), as I can self-manage. This was tricky at this conference.</p>
<p><b>How would you rate the breakout session room</b></p>	<p>48 57.8%</p>	<p>29 35.0%</p>	<p>4 4.8%</p>	<p>2 2.4%</p>		<p>Meeting rooms were too warm</p> <p>The break out rooms were freezing and then boiling. Much worse than previous years.</p>

**Note:** Participants who rated a 3 or greater were asked to comment

	Strongly Agree	Agree	Doubtful	Disagree	Strongly Disagree	Comment
I received all the information required regarding the Math Summer Institute	67 80.7%	16 19.3%				
I received the information regarding the Math Summer Institute in a timely manner	68 81.9%	15 18.1%				
The goal of this PD experience was clear to me prior to my arrival	61 73.5%	22 26.5%				
Mathematics is something I'm good at	21 25.3%	51 61.5%	9 10.8%	2 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?**

Response included: (order reflects frequency)

- ✓ Student engagement
- ✓ Use of manipulatives
- ✓ Rich questioning – open ended questions; TQE process
- ✓ Clear objectives with activities that reflect such
- ✓ Students discuss/explore concepts
- ✓ Math talk
- ✓ Time for exploration – not giving answer or how to do it
- ✓ Showing/Using multiple strategies to solve a problem
- ✓ Students talk more than teacher
- ✓ Clarity of explanation
- ✓ Verifying understanding
- ✓ Type of tasks and task selection
- ✓ Process over right answer
- ✓ Math centers
- ✓ Student directed lesson(s)
- ✓ Classroom culture

- ✓ Students justify their answers and those of others
- ✓ Evaluation
- ✓ Acceptance of student ideas
- ✓ Teacher observation
- ✓ Classroom management
- ✓ Accessible activities with varying complexity- multi level
- ✓ Differentiation
- ✓ Not based on right wrong approach
- ✓ Flexibility

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

All the time	13	15.7%
Often	45	54.2
Sometimes	24	28.9
Rarely	1	1.2

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

Zero	1	1.2%
1-2 times	15	18.1
3-5 times	18	21.7
6-7 times	24	28.9
8-10 times	25	30.1

**Briefly list and describe some factors that influence how often manipulatives are used in your lessons**

Response included: (order reflects frequency)

- ✓ Time
- ✓ Availability
- ✓ Topic/content  
(Frequent response to the first three)
- ✓ Knowledge of how to use them effectively
- ✓ They are readily available for students to use as needed
- ✓ Using manipulatives requires that I have well-thought out lessons
- ✓ As a Resource Teacher I encourage the classroom teacher to make use of them
- ✓ Secondary classes are not always conducive to using them
- ✓ see what they know already, see how they think, topics, solving problems, save time for a better understanding
- ✓ Special ed so it's a staple in my class

	Strongly Agree	Agree	Doubtful	Disagree	Strongly Disagree	Comment
The content of the workshops at the Summer Institute was representative of my needs as a Mathematics teacher	37 44.6%	38 45.8%	4 4.8%	4 4.8%		
The amount of content in the breakout sessions was appropriate	36 43.4%	41 49.4%	4 4.8%	2 2.4%		
The pacing of the breakout sessions was appropriate	38 45.8%	36 43.4%	8 9.6%	1 1.2%		

**If you disagreed with any of the statements, please indicate why:**

- Sometimes I felt it was too long and as adults and teachers we did not need as many opportunities to do the problems fully in order to understand, this being for cycle 1.
- Some of the content is generated more towards high school math and not elementary
- The sessions were not made for cycle 2 high school, (Editor’s note: the design was for Elementary and transition to high school)
- Jennifer (Tobias) was called in at the last minute, she did quite well all things considered.

- I found the level was above what I teach and a lot of the content was more appropriate for high school. My first year the grouping was grades 3-5 and I preferred that. I had the same presenter for my second and my third year, I would have preferred to have a different one the third year.
- I think there could have been more content. The content that was covered was very good.
- I sometimes felt that too much time was spent on an activity/ concept...In the time we had more should have been covered.
- Sometimes I felt the level of math was too difficult for the students that I teach. However, I learned about always keeping the level of problems within reach and interest of the students. Too hard means lack of interest.
- Third year content was repetitive
- The pace was slow and the content was kind of a repetition from previous years.
- I think we could have moved a bit more quickly through the content.
- I found them a little slow (to accommodate some learners
- wanted more videos like we had for year one. Too much and too long playing to be a student, we get it!
- I often felt like we hadn't addressed most of the content proposed, and didn't address others at all.
- too much content
- The session was not appropriate for my needs. I was looking for more hands-on activities to use in my classroom. I felt the material was very similar to what I had seen in previous years
- Since principals are able to change our grade level year to year, I would have liked the opportunity to change into the cycle in which I would be teaching
- more content and more time is necessary to cover more content
- I wish there was even more
- I wish we had more time all the time! They have been the best workshops I have ever been to! (and not because of the food or location)

**How would you rate the presenter's facilitation of your breakout session?**

<b>Presenter</b>	<b>Number of respondents</b>	<b>Excellent (1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>Poor (5)</b>
<b>Lisa Brooks</b>	<b>18</b>	<b>61.1%</b>	<b>33.3%</b>	<b>5.6%</b>		
<b>Melissa Carli</b>	<b>2</b>	<b>50.0%</b>	<b>50.0%</b>			
<b>Brian Dean</b>	<b>22</b>	<b>54.5%</b>	<b>18.2%</b>	<b>27.3%</b>		
<b>Juli Dixon</b>	<b>26</b>	<b>84.6%</b>	<b>11.6%</b>	<b>3.8%</b>		
<b>Jennifer Tobias</b>	<b>15</b>	<b>13.3%</b>	<b>53.4%</b>	<b>20.0%</b>	<b>13.3%</b>	
<b>Total</b>	<b>83</b>					

## **What feedback could we give the presenter in your breakout room to improve your experience in the future?**

### **Lisa Brooks:**

- Would like to see the bigger picture on how the class is set up while the small group instruction is going on.
- Better at managing chatting going on in the room
- Less let's pretend to be a student ( I think she had to make us be a student, maybe her team can revise this part). For the rest Lisa was great!
- Activities too basic and repetitive
- Personally, I would like less activities where I run around and find a partner or someone with a similar number, etc., but that's me and not a criticism of the presenter. I have always been one of those non-participatory kids!

### **Melissa Carli:**

- Too long on activities.

### **Brian Dean:**

- Keep it up! I saw a huge improvement in Brian Dean's comfort level with the group from one next year to the next
- Being receptive to change the orientation of the presentation based on the teachers' feedback and questions
- I think teachers are probably the worse students! Sometimes there was too much talking in small groups when we were asked to "come back". This is very distracting to me. I have to say that he tried in a very diplomatic manner to get everyone listening.
- He did a much better job this year with pacing and answering questions, I would of preferred more appropriate grade level content. I heard from some of the teachers in the cycle 2 group that there were many ideas more appropriate for cycle 3.
- Less time could be spent on certain activities to allow the group to cover more content.
- The pace was too slow. I would have also liked more real-life examples of what we can do with our students.
- Some of the material covered was too difficult for grade 5-6. It felt overwhelming.
- More time to discuss and to make sense of the activity, create activities in group with help of the presenter
- Use cycle 3 examples for videos, the time to work on problems was sometimes too long, but other than that I really appreciated my presenter.
- I wasn't sure of the learning goals for each session; perhaps clarifying these would help with the feeling that content wasn't covered.
- Give a little less time to do each activities (with manipulatives). Even if we are not done, as adult, it's possible to continue so we could have covered the whole planned program
- Insist on people being quiet, use more manipulatives, explore question being asked in more depth.
- Make sure audience stays quiet. Answer questions asked more directly rather than leaving us wondering. More use of manipulatives.



**Juli Dixon:**

- longer session
- Obviously, her knowledge of the subject matter is excellent, however, it seemed to be more one-sided than my previous 2 years experiences- I mean, she very much led the sessions and there seemed to be less of the people's input this year.
- Julie's presentation was excellent. Though Julie subtly tried to give hints at people who were loud "just because you are louder doesn't mean you are right," she did catch the hint. So my suggestion would go to Julie, more so the organizing committee to remind the people attending the conference that we are professional and that constantly talking while the presenter is speaking is very distracting to others who would rather hear what Julie says.
- It would be helpful to see the learning intentions after the activity is complete. Seeing the learning intentions would help teachers to recognize good from bad intentions and would help teachers see the importance of writing them out before planning the lesson/activity.
- More time with new manipulatives
- less tweeting

**Jennifer Tobias:**

- Make the pace a little quicker, not necessary to do activities for same amount of time students would
- The pace at which she covered things was slow. I understand she did her best given she was tasked with this last minute.
- Be more lively and engaging
- She did well, but there were a few times she seemed a little unsure of herself. I am sure with more experience this will improve.
- Link work to bigger ideas/concepts/TQE process more explicitly.
- She did a great job. She needs to work at her classroom confidence, it comes with practice.
- A lot of time was given for teachers to discuss and to share their experiences in our smaller groups.
- I feel that she had less experience than the other presenters. I would have preferred someone else, based on experience, but circumstances were beyond their control.
- I felt that she needed to have more 'control' of the room. A few strong opinion participants would be able to run on with their thoughts.
- Faster pace and more variety with the content worked on.

**Cycle Workshops (Wednesday session)**

	<b>Rate the facilitation</b>
<b>Laurette Barker and Stacy Pinho</b> Level K – 2    N=7	Excellent (1)    2    28.6%
	(2)                    5    71.4%
	(3)
	(4)
	Poor (5)
<b>Anne Guilbeault and Kathleen Murray</b> Level K – 2    N=14	Excellent (1)    4    28.6%
	(2)                    5    35.7%
	(3)                    3    21.4%
	(4)                    2    14.3%
	Poor (5)
<b>Chad Leblanc and Tina Morotti</b> Level 3 - 4    N=16	Excellent (1)    5    31.3%
	(2)                    9    56.2%
	(3)                    2    12.5%
	(4)
	Poor (5)
<b>Saba Din and Jeff Harvey</b> Level 3 - 4    N=7	Excellent (1)    3    42.8%
	(2)                    2    28.6%
	(3)                    1    14.3%
	(4)                    1    14.3%
	Poor (5)

<b>Cheryl Cantin and Jennifer Hall</b> <b>Level 5 - 7 N=22</b>	Excellent (1) 9 41.0%
	(2) 11 50.0%
	(3) 1 4.5%
	(4)
	Poor (5) 1 4.5%
<b>John Leblanc and Vanessa Rayner</b> <b>Level 5 - 7 N=16</b>	Excellent (1) 10 62.5%
	(2) 6 37.5%
	(3)
	(4)
	Poor (5)
<b>Lisa Lorenzetti and Jordan Venne</b> <b>Level 5 - 7 N=1</b>	Excellent (1) 1 100%
	(2)
	(3)
	(4)
	Poor (5)
<b>Total N =83</b>	

## **What feedback could we give the presenter(s) of the Wednesday consultant-lead session to improve your experience in the future?**

### **Laurette Barker and Stacy Pinho**

- I understand what they were trying to do with teacher vs student role, but the questioning process was not a big focus during the break out sessions, therefore I was not feeling comfortable with the process. The questioning process is a workshop in itself and one that I, as a teacher, will need to practice in order for it to become automatic and natural. I liked the questioning hand out poster that was shown to us during the session. It will be helpful during classroom questioning. I feel that the questioning and prompting is a big part of this math process, but it was not a big focus during the workshop, except during the mini video clips.
- I loved the hands-on activities.
- concrete examples of how our school board will support us

### **Anne Guilbeault and Kathleen Murray**

- I felt that Kathleen was a little snappy and maybe uncomfortable presenting.
- To provide material that we need in our schools and more sharing between schools i.e If you present a successful lesson in a grade 3 class send it to all grade 3 cohort teachers in Board.
- The session was interesting. The consultants were talking to us and not engaging in dialogue with us as much as we were used to during the breaks out sessions
- We seemed rushed for time, so some things we ended up doing quickly, but I did enjoy the activities working at a table with a small group.
- Wonderful! I felt more at ease when the role playing was done as a small group as opposed to present in front of a larger audience.
- To have a friendlier demeanor. While I am sure they did not mean to do so, they came across unorganized, grumpy and controlling. At times they came off as rude and, in the end never even passed out the handouts.

### **Chad Leblanc and Tina Morotti**

- Show us video of the students solving the problem after we conference so we could discuss ways a teacher could guide them when stuck in a problem such as this. That would give us a good understanding of what information and guidance is appropriate to give and how much is too much.
- They were informative.
- They seemed to allow a great amount of time for us to work in teams on our math problem, perhaps too much time
- The session left me with questions and concerns about how teachers may use the content provided. I think it should be made clear that that activity would not be suitable for evaluation of student learning but rather as a means to collect data on what students know and understand. The activity showed just how important it is for teachers to delve deeper into student thinking by asking questions and bringing students together to talk. If teachers merely evaluated the sheets submitted by each "student" they would not have an

accurate understand of each student's learning. Again, it would be helpful to see the learning intention written down at the end of this activity - as the learning intention is pivotal in determining whether or not teacher and students were successful in the lesson.

- The participants were too tired for role playing unfortunately. It was a good idea but not what was best in August.
- provide a network for teachers to be able to contact and consult each other

#### **Saba Din and Jeff Harvey**

- big group, difficult to understand the purpose of activity
- Too much time spent doing role play, it amounted to very little content
- It was engaging, I think it was well done.

#### **Cheryl Cantin & Jennifer Hall**

- It was well done but similar to the year before.
- I feel that the session was too short for me to provide feedback. The session was great considering the amount of time that was given for the session.
- It was great! Loved the scenario and role model idea.
- It was so fun, I wish we could had more time to continue.
- all good!
- We want more!!!! Please

#### **John Leblanc & Vanessa Rayner**

- A little less role play.
- It was a great session, so well organized.
- More of these sessions needed throughout the school year
- They both did great but John is a real natural at being a consultant.
- A bit too fast, needed more strategies.
- It was challenging for those with the teacher role to lead the activity, but it was worth doing it. It is the most difficult part of the TQE process to address the misconceptions in a skillful manner. We all still need lots of practice!

#### **Lisa Lorenzetti and Jordan Venne Nil**

**The content of the Wednesday consultant-lead session was appropriate and met my needs.”**

Strongly Agree	20	24.1%
Agree	58	69.9
Doubtful	3	3.6
Disagree	2	2.4

**If you stated that the content did not meet your needs, please indicate why:**

- More time would be helpful throughout the year!
- Needed more time to work on strategies and a place to sit down, we stood in the hallway.
- For me personally I do not feel like roll playing helps me with my teaching.
- Useless role playing
- In this case had to move too quickly through the lesson and it was valuable. It would have been great to have more time to work through it and to debrief what we did.
- It was repetitive. An activity that had already been expressed in the previous year & echoed at in ongoing sessions.

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

- ❖ Follow up with math consultant
- ❖ Webinar update sessions
- ❖ continue pd session to maintain talk and sharing of knowledge
- ❖ Facebook group
- ❖ Release time to meet with teachers in our school/others schools to share ideas/lessons
- ❖ Appropriate and related pd on pedagogical days (2)
- ❖ Continued PD together to reflect on teaching in the class. More manipulatives.
- ❖ Opportunities to visit other teachers
- ❖ Plc money (3)
- ❖ Refresher sessions based on needs

- ❖ In class visits, or video analysis of math teachers' classes
- ❖ I feel that we need to go through our manipulatives and add to them according to what we have now learned
- ❖ More strategies using manipulatives, providing other websites with engaging math problems like 3 act math.
- ❖ We must have time to develop together. It is very difficult as we are a small board spread out over a vast area with no road link. I feel it is important that we continue to partner with other boards and to link more often using the technology available to us.
- ❖ A bank of TQE lessons, there should be PD for teachers so that more teachers get to experience and learn about TQE process
- ❖ The questioning process
- ❖ How to use manipulatives in cycle 2 high school
- ❖ Time to meet to continue working on the TQE approach and a way to share ideas.
- ❖ More manipulatives offered to teachers
- ❖ Release time to meet with teachers/cycle teams in order to share math knowledge. Time is important, as is vertical planning
- ❖ Helping with the designing of math activities with a clear learning goal that uses manipulative effectively.
- ❖ Time for networking/sharing with other teachers; purchase of manipulatives that were used at the Math Institute; consultant visits
- ❖ team teaching or time to plan with other teachers within the board
- ❖ I'm already in the PDIG math with Saba and love how we are able to use the strategies learnt during the conference with other colleagues.
- ❖ Follow up with other teachers in our board. Longer class times.
- ❖ Follow up between boards with consultants to see how other boards are integrating PD from sessions
- ❖ A follow up year with the DNA math team - even virtually "
- ❖ meet ups with other teachers, task sharing
- ❖ hire a math consultant
- ❖ Coming into our classroom and modelling with real students. I learn so much from watching how other "professionals" do it. Teaching is generally done alone the best we can. Sometimes just seeing a cool lesson done by someone else can be very inspiring and motivating.
- ❖ The meetings during the school year are appreciated
- ❖ I would say, learning how to use students' misconceptions to create meaningful tasks.
- ❖ More examples and lessons using manipulatives
- ❖ Provide support from the consultants. Purchase more manipulatives. Allow planning days for grade appropriate planning with consultants.
- ❖ Budget for manipulatives, (4)
- ❖ Sharing between teachers and facilitators
- ❖ provide teacher with relevant books from the Making Sense of Mathematics series
- ❖ To help us network and provide sample lesson plans and new tools/manipulatives
- ❖ opportunities to discuss/meet/plan together/visit each others classrooms

- ❖ Time to meet with other cycle 3 teachers from other schools in our school board. We could help each other create centers and appropriate lessons, we could also share what works and what doesn't. Maybe an online group would be fine.
- ❖ More paid days or PED days to discuss teaching methods with teachers.
- ❖ refresh sessions, being available if there is a need, share videos or content by emails, design rich math activities for teachers once in a while with instructional goal, share new content from DNA Math, provide teachers with books about Making sense of math (I have the K-2 one but there are other books consultant are using that I might want and use).
- ❖ Having the consultants come into our building and help our cycle team achieve our goals. This is something our school board planned for the 2018-2019 school year. Looking forward to it!
- ❖ Resources: monetary and human
- ❖ Provide opportunities for cohort members to get together, discuss what works and doesn't and exchange on our experiences to keep the DNA math experience alive and growing.
- ❖ Help planning with the use of manipulatives
- ❖ Involve other colleagues at my school
- ❖ continued voluntary workshops, even if they were after school, on our time
- ❖ help spread the word to principals and teachers who can not go (because of other obligations)"
- ❖ Activities used by other teachers mini lessons (2)
- ❖ I think my school board does well to support teachers. The Consultant makes herself available to schools whenever they request her support. She is easy to reach online and she has created Math binders to support teacher needs.
- ❖ Follow up in future years as well.
- ❖ Having a bank of lessons, created by the various consultants from the different school boards as well as teachers, accessible to all to make the TQE process alive in all of the math classes!
- ❖ 3-4 meeting/year to share strategies that we used in our class and that goes with the Summer Institute philosophy
- ❖ More time with consultant to support teaching. Going to observe in model classrooms.
- ❖ More time and guidance to plan rich lessons using the TQE process.
- ❖ My classroom and school are very healthy and generous therefore I don't need anything
- ❖ Supply books from the presentations and budget for manipulatives
- ❖ Continued PD to keep key concepts from Summer Institute fresh in our mind and always a focus.
- ❖ To meet a few times a year to discuss what new strategies we have used and what has changed or not changed in our teaching.
- ❖ Encouraging our principals to increase budget for manipulatives so each class has a set of basic manipulatives such as base ten blocks, linking cubes, double sided tokens...
- ❖ Al lesson bank of concept and introduction questions would be great! Time to sit down with teachers at the same grade level to review and to discuss what is and what is not working
- ❖ small group networks to discuss and share progress with the process
- ❖ networking with other teachers, follow ups



- ❖ PD to help implement conceptual math in the classroom. Provide additional resources.
- ❖ Evaluation PD
- ❖ Get us together more often to share with a knowledgeable consultant.
- ❖ We need more math manipulatives. We need PD at staff meetings so that more teachers are on board and not just the ones who attended the math institute.
- ❖ Time to meet with my cycle team to plan our math around the TQE process
- ❖ Allow teacher of same level to have time together to create activities.
- ❖ Teachers from our board who attend the math institute meet a number of times throughout the school year to discuss what we are doing, plan, etc.
- ❖ We need to meet as cycle 3 teachers and plan for learning goals and tasks! The Progression of Learning needs to be broken down. We also need common evaluations and guidelines for correcting them.
- ❖ Funding to continue engaging in monthly PLCs and supporting classroom visits to peers in other schools.
- ❖ Have the opportunity to continue to network with other teachers from other schools. Given the opportunity to share with colleagues within our school.

**From the list of teaching practices below, which three would be your top priority for professional development?**

<b>Teaching Practice</b>	<b>Indicated as first choice</b>	<b>Indicated as second choice</b>	<b>Indicated as third choice</b>
Representing student thinking and key ideas	<b>19</b>	-	-
Orienting students to each other's ideas	<b>19</b>	<b>2</b>	-
Recognizing students as competent contributors towards developing understanding	<b>12</b>	<b>4</b>	-
Eliciting and responding to student thinking	<b>7</b>	<b>9</b>	-
Designing and facilitating rich math activities that allow for student sense-making	<b>8</b>	<b>45</b>	<b>19</b>
Establishing and maintaining expectations for student participation	-	<b>13</b>	<b>8</b>
Identifying and teaching towards an instructional goal	<b>1</b>	<b>2</b>	<b>38</b>
<b>Other:</b>		<b>Teaching in multi-level classrooms</b>  <b>Being made aware of student misunderstandings</b>	<b>Real life problems</b>  <b>A collection bank of TQE lessons</b>  <b>Using manipulatives</b>  <b>Using manipulatives in Cycle 3</b>

**What content should be the focus of future PD (i.e. what content area or curricular goal(s) do you feel least prepared to teach conceptually?**

- Situational problems (12)
- Geometry and probability (7)
- designing and facilitating rich math activities (8)
- Operations with fractions (12)
- Place value (2)
- Exponents
- Time and measurement (8)
- Evaluating problem solving situations
- Decimals (4)
- Long division (5)
- Algebra
- Trigonometry
- Evaluation (3)
- Prime factorization
- Questioning (5)
- Strategies for struggling learners
- Different types of word problems
- Bank of TQE lesson plans
- More of the potential misconceptions of students – what to anticipate (2)

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

- Thank you very much for the amazing opportunity. It was a great learning experience.
- Is it possible for the presenters to address application and situational problems perhaps in a break out session after the day is complete. I would be interested in better understanding how situational problems should be presented and tackled particularly in grade 2 and 3.
- It was an overall enriching and amazing experience. I'm so thankful that I got to participate. It has changed how I teach math. Thank you
- Let participants switch to cycle-appropriate groups if their assignments have changed since the time of registration. It's ridiculous to consume so much public money for this project and not make this accommodation.
- Great experience. I wish all my colleagues could attend.
- Having guest speakers throughout the year would be wonderful & make board sessions more meaningful
- A very enriching pd experience overall!!
- I thoroughly enjoyed my experience, thank you for this opportunity!
- It was a very enjoyable experience!
- We want more!
- Thank you, I enjoying the opportunity to participate in PD related to math.
- Well done organizing this the past 3 summers. It was a great experience! Thank you. (6)
- Every teacher should go to the summer institute!
- It was a great experience. I am happy to have participated!
- My recommendation may be looked upon negatively by the attendees and may be impossible for contractual reasons with the DNA team, but I think the sessions should run longer. At the very least, we could have some "homework" that would encourage the teachers to talk together outside the sessions and share ideas that could be brought to the next session.
- It was an excellent workshop. I am saddened it's over.
- Excellent organization :-)
- It would have been great to hear how the DNA Math team would have tackled situational problems
- It is important for teachers to feel that notions are at student's level.
- Flexibility in changing group if needed."
- Everything is always well organized! Everyone appreciated their hard work that goes into planning such a big event.
- Job very well done and I will miss our yearly reunion come next August.
- I love the feedback and math strategies learned.

# Appendix B

Cohort Three – Year Two  
Started Summer 2017

## Summary of the Feedback from Cohort Three – Math Summer Institute 2018

Number of respondents: n= 89 (79.5%)

	Excellent (1)	(2)	(3)	(4)	Poor (5)	Comment
<b>Experience booking accommodations</b>  N/A 1 1.1% Did not stay at hotel	53 59.6%	19 21.3%	8 9.0%	8 9.0%		I made my reservation way before deadline but I think because I asked for a single room it took longer to have confirmation and maybe some help from the LCEEQ team.  A mix up reserving  My roommate and I had to switch rooms. The change was confirmed back in December but when I arrived the staff took two days to figure it out.  I did not receive confirmation of my booking and had to call many times to receive this.  I did not receive confirmation of my booking until several weeks (maybe months) after booking. Upon arrival there were some issues in registering for our room as well. It was certainly not a smooth and easy experience.  I found booking the room a bit frustrating. The Manoir did not confirm my reservation and I had to e-mail/call them several times in order to have a response.  My booking, though done on time and confirmed, was “lost” upon my arrival.

						<p>The hotel mixed up my reservation and my roommate wasn't booked into my room (a person who was not even attended was meant to be in my room). Even though I had emails indicating that the switch early in the season had been made, it seemed hotel never made the change.</p> <p>We seemed to have been put in a room where about every hour there was a loud bang (maybe the elevator) we couldn't figure out what it was but it woke us up through the night. Also, the first night the room's fire alarm intermittently would go off. Someone came to fix it, it didn't work, and they had to come back again.</p> <p>There was a significant delay (several weeks) from when we were asked to have our reservation request submitted until when the hotel could confirm the room type. Would be preferable to have the confirmation within a few days.</p>
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<p><b>How would you rate accommodations</b></p> <p>N/A 1 1.1% Did not stay at hotel</p>	59 66.3%	23 25.8%	4 4.5%	2 2.3%		<p>Late check in, arrive at room and not ready, housekeeping literally pick things off floor and throw back on bed in front of us, a sticky door that was hard to open - these were issues that weren't dealt with satisfactorily</p> <p>Family suite was dark and the patio was facing a wall of rocks. There was also the smell of humidity.</p> <p>Room was standard, some we saw were certainly nicer.</p> <p>The organizer got in touch with me because no room had been booked under my name although I had filled out the required forms. I never received confirmation of receipt from the Manoir nor did I ever hear back from anyone (via email or other). In the end, I DID end up with a room and all was well. Some form of confirmation would have been nice.</p> <p>Le Manoir St-Sauveur did not confirm our reservation. It was a little stressful but the organizer was very helpful!</p> <p>I never received a confirmation from the manoir and had to call back 4 times.</p> <p>They made a mistake with my reservation and I had to downgrade to a much smaller room.</p>
<p><b>How would you rate the meals</b></p>	57 64.0%	27 30.3%	3 63.4%	2 2.3%		<p>Break times cookies/fruit were not replenished</p> <p>I did not use the hotel's accommodations. However, after having contacted the hotel concerning food allergies and intolerances, I was disappointed to find the staff was not very helpful in identifying foods that I could eat. In fact, when asking a member of their staff to go</p>



					<p>through the buffet with me, she reluctantly did so. I noticed something was labeled as vegan but in fact contained yogurt. After having told her, she just picked up the sign and moved it to another item. It was shortly after this that an announcement was made to ask staff about food allergies but it is scary to know that they were taken so lightly in this situation. When arriving and trying to find a place to sit at meals, only to find no cutlery at any chosen spot, I asked a waitress where I could find extra cutlery. Their response on more than one occasion was to go find some on other tables. Having worked in the food industry before, this is unacceptable from my point of view. The food that I was able to eat was decent and I never had to wait very long but there are aspects that should be improved.</p> <p>I gave details of my food restrictions far in advance and was once again disappointed with the options that the hotel offered. I found it very hard to know what I could and could not eat. The hotel suggested I ask the wait staff, but they could almost never answer my questions. I had to either take what I "thought" I could eat (which led me to have some health problems as I was not correct in guessing that steamed vegetables, for example, were also coated in butter) or wait 5-10 minutes at the buffet until someone could come and tell me which items to avoid. In this modern day, it is VERY simple to meet the needs of all by avoiding common allergens whenever possible (and it is almost always possible). For example, simply switching to oil from butter would have ensured any vegans and dairy-intolerant participants had much fewer limitations. It is SO easy to make a vegan soup that tastes as good as one filled with cream (all soups during the week contained dairy). I also had zero options for desserts the whole week, apart from when the</p>
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						<p>maitre-d brought me some sorbet from another restaurant. I asked the hotel in advance if I should be prepared to supplement their offerings and was told they would absolutely be able to accommodate my "common" restriction. I wish this had been true.</p> <p>The food was alright but I'm very picky!</p> <p>The food was not always warm or available. There weren't always clean dishes or cutlery</p> <p>My one comment is that the snack lines were way too long. Perhaps separating coffee from food might move things along.</p>
<b>How would you rate the breakout session room</b>	50 56.1%	28 31.4%	10 10.0%	2 2.5%		<p>Window in break out room. Lower air conditioner</p> <p>The meeting rooms were abnormally cold. Also, in the rooms I was in, there were never enough snacks/drinks for all the attendees. Most of the break was spent in line just to get there and there was nothing left ... other areas had excess food.</p> <p>The break-out room for our session was cold and damp. (2)</p> <p>The break out room was freezing cold most of the time.</p> <p>The temperature in the rooms was either freezing or way too hot. It would be nice to be able to regulate that for next year!</p> <p>Breakout sessions rooms where either too hot or too cold, the doors were very noisy whenever anyone stepped out</p>

**Note:** Participants who rated a 3 or greater were asked to comment

	Strongly Agree	Agree	Doubtful	Disagree	Strongly Disagree	Comment
I received all the information required regarding the Math Summer Institute	57 64.0%	27 30.3%	1 1.1%	1 1.1%		
I received the information regarding the Math Summer Institute in a timely manner	68 76.4%	17 19.1%	3 3.4%	1 1.1%		
The goal of this PD experience was clear to me prior to my arrival	71 79.8%	16 18.0%	1 1.1%	1 1.1%		
Mathematics is something I'm good at	8 9.0%	63 70.8%	16 18.0%	1 1.1%	1 1.1%	

**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?**

Response included: (order reflects frequency)

- ✓ Evidence of student learning
- ✓ teacher not providing students with all the answers,
- ✓ Student comfort with making mistakes,
- ✓ Math talk,
- ✓ TQE process
- ✓ Encouraging discovery
- ✓ various strategies to answer the questions
- ✓ students listening to each other
- ✓ meaningful tasks
- ✓ sense making
- ✓ time for reflection on concept taught before procedures
- ✓ hands-on exploration
- ✓ class discussions being facilitated by the teacher but led by the students.
- ✓ clear explanations
- ✓ if the kids are enjoying the lesson,
- ✓ if the kids are taking risks
- ✓ teacher knowledge
- ✓ Differentiation
- ✓ curiosity

- ✓ No right wrong answer approach
- ✓ quick ways to check for understanding and that allows for modifications to lesson
- ✓ students actively creating their own learning
- ✓ Scaffolding
- ✓ Guided learning
- ✓ teacher enthusiasm
- ✓ Time spent in direct teaching versus hands-on

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

All the time	7	7.9%
Often	43	48.4
Sometimes	31	34.9
Rarely	4	4.4
Not at all	2	2.2
Not applicable	2	2.2

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

Zero	2	2.2%
1-2 times	15	16.9
3-5 times	18	20.2
6-7 times	28	31.5
8-10 times	24	27.0
Not applicable	2	2.2

**Briefly list some factors that influence how often manipulatives are used in your lessons**

Response included: (order reflects frequency)

- ✓ Availability
- ✓ Topic/content
- ✓ Time
- ✓ Knowledge of use
- ✓ Students always encouraged to use Visible and part of classroom culture
- ✓ Group size
- ✓ Need ideas/help on how to use them in the classroom
- ✓ Visible and part of classroom culture
- ✓ Some are time consuming and energy requiring
- ✓ Not all students want to use them
- ✓ Too much content to cover, manipulatives take time
- ✓ Number lines require preparation with more difficult intervals (prior to lesson).
- ✓ Change schools frequently – resources vary
- ✓ Teach special needs- visual learners so use frequently
- ✓ White boards used frequently

	Strongly Agree	Agree	Doubtful	Disagree	Strongly Disagree	Comment
The content of the workshops at the Summer Institute was representative of my needs as a Mathematics teacher	44 49.4%	44 49.4%	1 1.2%			
The amount of content in the breakout sessions was appropriate	48 53.9%	38 42.8%	2 2.2%	1 1.1%		
The pacing of the breakout sessions was appropriate	46 51.7%	38 42.8%	2 2.2%	2 2.2%	1 1.1%	

**If you disagreed with any of the statements, please indicate why:**

- I wish there was more time
- The content was relevant but we did not leave with many concrete ideas/tasks to use with our students. Being a grade 6 teacher now, there was very little I could take back although the pedagogical approach remains the same and applicable throughout the levels.
- We went over a topic that is already easy to teach. I am not a student so I do not feel the need to be treated like one in order to learn how to teach. The animator was dry and the information being transmitted was not useful as I already do most of what was shown.
- There was a mad rush on the last day to “get through” all that had to be covered.
- I didn't disagree but I think we could also have a short night session in order to cover more material
- I would have loved to have more break out time with Ed on the last day.
- I was hoping that since this was our second year that we would have discussed and shared our experiences from the previous school year. Discussing how to implement and manage a large group using the TQE process.
- I felt like I wasted a few days of my summer attending this session. As a recent university graduate, I felt that none of the content covered this year was new to me. Geometry and measurement are two of the most hands-on and exploratory units in the curriculum. The DNA presenters were not even aware of some of the curriculum requirements in our province. I felt much of the content was geared toward younger students (I teach Grade 2). The pacing of the sessions was very slow. I understand the desire to make the learning hands-on, but we are not 6 year old students and I don't enjoy pretending to be. It felt like a waste of time to complete all of the activities, which are designed for small children - simply explaining some of them would have sufficed.

**How would you rate the presenter’s facilitation of your breakout session?**

Presenter	Number of respondents	Excellent (1)	(2)	(3)	(4)	Poor (5)
Thomasenia Adams	18	38.9%	44.4%	11.1%		5.6%
Melissa Carli	15	80.0%	20.0%			

<b>Tashana Howse</b>	<b>16</b>	<b>56.3%</b>	<b>43.7%</b>			
<b>Ed Nolan</b>	<b>17</b>	<b>82.4%</b>	<b>17.6%</b>			
<b>George Roy</b>	<b>23</b>	<b>78.3%</b>	<b>17.4%</b>	<b>4.3%</b>		
<b>Total</b>	<b>89</b>					

**What feedback could we give the presenter in your breakout room to improve your experience in the future?**

**Thomasenia Adams:**

- **Walk around the room. Don't put people on the spot. Listen to what the group is asking for.**
- **Thomasenia is a phenomenal presenter. Her habit of calling on anyone to answer a question is terrifying- but in a good way.**
- **More role playing ... living it is very different from seeing an experienced facilitator work in a prepared setting.**
- **Sometimes, the content was way too advance for my Grade level.**
- **More active learning**
- **There were often teachers in the classroom that were having side discussions or who were distracting with their negativity. I would have liked Thomasenia to intervene or manage the room better. If she was uncomfortable with this, then I would ask that a math consultant be in the room to help - because it was extremely distracting (for the second year in a row).**
- **To try to give strategies for our students with special needs such as autism.**
- **More videos of teachers in action would have been nice.**

**Melissa Carli:**

- **Great content and clearly presented. Thank you! My only suggestion is to get to know our names as you would with younger students!**
- **The posters on the wall were small and hard to read. The post-its of our takeaways were a good idea but it would have been nice to come back to them and involve them in the next session.**
- **Once in a while, a bit more time to process the information would be useful.**

**Tashana Howse:**

- **Know a bit about her audience. She was unaware of Canada and our Quebec education system.**
- **Show more videos.**
- **More cycle appropriate lesson/practical ideas.**
- **More concrete and hands on experiences for us to take back**
- **I fully appreciated the level of mathematics we were exposed to, however I sensed that others in the room did not always grasp the relevance. It might be beneficial for the DNA Team to either find or create a short video for teachers that might help solidify their understanding of why we need to know where the students are heading in order to know how to best start. I overheard teachers saying, "I**

want lessons that I can teach," which sounded to me as though they were still missing the point to a certain extent. I'm confident that Tashana spoke to why she was giving us problems in which we could experience what our students experience (productive struggle) but perhaps coupling her efforts with a video would send a stronger message - especially if all the instructors were to use it. I'd like to add that I thoroughly enjoyed Tashana's calm, joyful and positive energy. Her ability to keep the pacing moving while never making us feel rushed was impressive.

- More videos of students' learning experiences in their classroom. Do more hands-on activities.
- Give more examples that would be age-appropriate for the students of the teachers attending the session
- We were a little behind the other groups so we covered less material
- Although we had hands-on activities, we needed to practice more teaching the lesson.

#### **Ed Nolan:**

- More options for manipulative for concepts (this year with decimals it's seemed like it was base ten blocks or bust); also more instruction regarding large application and situational problem solving strategies
- I always like the activities with manipulatives. The older students really profit from these visual and hands on opportunities. Keep showing us their value so they come into more of our classrooms!
- The presenters were on their phones a lot tweeting and promoting themselves. It was a bit frustrating.
- more video of strategies being used in classrooms
- More discussion of the TQE process and how to implement it in terms of logistics with a large group.
- Ed was fantastic but had a tendency to cater a bit to the table he had parked his computer on. It, at times, felt like a private session just for them. I would suggest that a separate table be provided to the presenters to allow them to set up their materials on it and remain available and accessible to the whole group.
- More space - smaller groups for group work

#### **George Roy:**

- There was a GREAT deal of focus on one of the teachers in the group (ex. always referring to her, asking if she was understanding, using her in examples). By the second day it was so extreme that comments were being made about it outside of the session. It was odd.
- The introduction was slow, everyone introduced themselves which was nice but took a lot of time.
- Not always ask the same "keen" participants to explain their thinking, give more time for table discussion before inviting someone to either come in front or express their thoughts
- I loved that you let us take our time to work through it all. I left feeling confident! Thank you!
- Less time introducing each teacher
- not to focus attention on certain people repeatedly



**Cycle Workshops (Wednesday session)**

	<b>Rate the facilitation</b>
<b>Laurette Barker and Stacy Pinho</b> Level K – 2    N=23	Excellent (1)    4    16.7%
	(2)                    12    50.0%
	(3)                    6    25.0%
	(4)                    2    8.3%
	Poor (5)
<b>Anne Guilbeault and Kathleen Murray</b> Level K – 2    N=11	Excellent (1)    4    36.4%
	(2)                    4    36.4%
	(3)                    3    27.2%
	(4)
	Poor (5)
<b>Chad Leblanc and Tina Morotti</b> Level 3 - 3    N=3	Excellent (1)    1    33.3%
	(2)                    2    66.7%
	(3)
	(4)
	Poor (5)
<b>Saba Din and Jeff Harvey</b> Level 3 - 4    N=19	Excellent (1)    4    21.1%
	(2)                    12    63.2%
	(3)                    3    15.7%
	(4)
	Poor (5)

<b>Cheryl Cantin and Jennifer Hall</b> <b>Level 5 - 7 N=3</b>	Excellent (1) 1 33.3%
	(2) 2 66.7%
	(3)
	(4)
	Poor (5)
<b>John Leblanc and Vanessa Rayner</b> <b>Level 5 - 7 N=5</b>	Excellent (1) 3 60.0%
	(2) 2 40.0%
	(3)
	(4)
	Poor (5)
<b>Lisa Lorenzetti and Jordan Venne</b> <b>Level 5 - 7 N=24</b>	Excellent (1) 6 25.0%
	(2) 13 54.2%
	(3) 3 12.5%
	(4) 2 8.3%
	Poor (5)
<b>Total N =89</b>	

**What feedback could we give the presenter(s) of the Wednesday consultant-lead session to improve your experience in the future?**

**Laurette Barker and Stacy Pinho**

- Explain expectations clearly. Ask for volunteers as opposed to forcing everyone to half heartedly participate.
- Get more feedback from the presenters after the lesson.
- I appreciated that the activity we worked on was tested in a Kindergarten class for real and that the presenter could give extra info on how it went.
- It was fine although too brief. They didn't have a chance to share everything they had planned to share. Maybe pacing?
- More time the session was very short
- It was a little confusing. We were not sure what was expected of us.
- It would have been more beneficial to accomplish more than one activity within that length of time. The pacing was far too slow. We spent a lot of the time sitting around and talking.
- I do not enjoy role-playing. Although I understand the desire to simulate a "real-life" experience through role-play, I felt it was contrived and unhelpful. In my classroom I know what strategies my children have learned and I can guide them in solving problems using this knowledge. This is not the case in the prescribed scenarios that were given. "
- Be more aware of time restraints.
- To have time to be both the teacher and student in the activities.
- They did a great job. We just needed more time.
- More examples, more hands on, less instructive talk
- To be more aware of time constraints (time management). Too much time was given for the activity and we were late for our school board meeting.
- The presenters said that they tried the activity out in classrooms with students. It would have been nice to see some video footage of the experiences to put it in more context. "

**Anne Guilbeault and Kathleen Murray**

- Not sure if I choose the right group of animators but I was in a k-2 group. I definitely don't like the pretend situations. I see the value of it but too much time was given for that. I would of like more discussions about the different reactions of the students.
- Rushed, not enough time
- allow for more time - we ran out before all activities were done

**Chad Leblanc and Tina Morotti Nil**

**Saba Din and Jeff Harvey**

- More time
- Provide more feedback concerning the question itself
- It felt rushed, it was like they were trying to squish too much in the time allotted.
- I think that the facilitator tried to do too much in a small period of time.

**Cheryl Cantin & Jennifer Hall Nil**

**John Leblanc & Vanessa Rayner**

- This is not specific to the presenter, but more time for the workshop would have been beneficial.
- hard to say, they did well. The activity itself was a good idea however it is difficult when participants don't get into their roles which happened at our table.
- More time to complete task. More realistic with students - be fair for teachers to practice , smaller groups to address the misconceptions in a skillful manner. We all still need lots of practice!

**Lisa Lorenzetti and Jordan Venne**

- Clearer instruction for the hands on activity but overall would love more of the hands on task next year
- I do not find It beneficial to “act” as students. As an educator I want to learn how to analyze student learning and create meaningful learning situations, not pretend to be a student for a session.
- Some of the people didn't know what to do in their roles (teachers in our case). It would have been great to have the chance for you to come to the table and offer some suggestions on how to tackle the different profiles at the table.
- maybe have a little more time to discuss what worked and what didn't amongst ourselves.
- Good idea with the role playing. Maybe when debriefing thoughts and ideas put them on an anchor chart so we have time to see and think about them again.
- Although I really enjoyed the role-play activity, I felt the information presented by the consultants was too quick. Perhaps sharing the presentation ( the slides) could be done next year. I would suggest creating a QR code where participants can scan with smart phone and the presentation link could be saved. A simple email would work as well.

- Slow down in the debriefing to allow processing. We were thinking as a student, and as a teacher and we had never seen the question before. It may have been useful to see the question and pre think of possible student errors.
- I understand the importance and use of the task we did and Lisa explained it wonderfully. Unfortunately, Jordan's interruptions and comments made it very confusing for the group.
- Less rambling and speak slower. He had a lot of ideas but it was really hard to follow him.

**The content of the Wednesday consultant-lead session was appropriate and met my needs.”**

Strongly Agree	18	20.3%
Agree	55	61.8
Doubtful	5	5.6
Disagree	9	10.1
Strongly disagree	2	2.2

**If you stated that the content did not meet your needs, please indicate why:**

- I would have liked more time on the activities scenarios where we had to figure out misconceptions, goals, etc. These we could take back to our classes with ready-to-go samples.
- The role playing as a student did not further my understanding, only the person in the teacher role was learning. Was very frustrating to waste time with this activity. Would prefer to have been given a topic at grade level and to develop a tqe in a small group then walk away with everyone’s tqe (a set of 8-10 lessons pre-made wowee!!!)
- School started last week and we were told that we would receive all the material that was presented to us. Well, I didn't receive it and would of like to have it to prepare it and have it ready to use.
- Again, the pace was too slow and it did not feel like we accomplished very much.
- I would have preferred time with our cycle to focus on lesson planning and developing resources.
- I left the session not really sure of what I had taken from it.
- I liked that we had to break down a task and role play the discussion that could take place after a problem was solved. However, I found that more time was needed. I think I would have enjoyed

working with my colleagues to develop a task that could be used in our classrooms related to the concepts discussed during our breakout sessions.

- It not help me with strategies for students with leaning difficulties.
- I did not leave with any new knowledge to help me improve my teaching.
- I do not enjoy role-playing. Although I understand the desire to simulate a "real-life" experience through role-play, I felt it was contrived and unhelpful. In my classroom I know what strategies my children have learned and I can guide them in solving problems using this knowledge. This is not the case in the prescribed scenarios that were given.

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

- ❖ More time for training and more time to meet with same grade level colleagues.
- ❖ Opportunities to collaborate with cycle one teachers
- ❖ More math workshops that continue with the learning we have done for the last two summers
- ❖ better access to manipulatives such as base 10
- ❖ Not too sure, perhaps some additional workshops on applying this practice
- ❖ A continuation of the institute
- ❖ Support in class
- ❖ Having more time to exchange or have visits to see and talk to other teachers.
- ❖ Time to attend math PD (coverage for a supply teacher)
- ❖ Watching other teachers model the TQE process
- ❖ A way for teachers across our board to communicate throughout the school year
- ❖ Things like I mentioned in the previous question. Opportunities for us to build our repertoires for the strands that we have covered in the sessions so far.
- ❖ In class support, help with designing problems
- ❖ Continue to share lesson plans and ideas. Get other teachers on board.

- ❖ Monthly plc meetings
- ❖ I like the idea of having some professional days to plan with other teachers who have attended the summer institute. I think we should have more teachers attending the math workshop.
- ❖ modelling: the consultant teaches the students as I observe
- ❖ At the beginning of the year for a cycle or so, be two teachers during math lessons, to use the manipulatives with the students... to show them how to do it properly.
- ❖ Availability of in class manipulatives, in class support by teaching some lessons so that our teachers could observe
- ❖ Allow planning time with colleagues from same cycle.
- ❖ support in programming that fall within the framework of the Math Institute
- ❖ Time to think and reflect upon our learning
- ❖ How to use manipulatives
- ❖ More funding for math manipulatives/technology/ more pd sessions
- ❖ Continue to offer PD sessions to support each other in the process, to learn from each other and plan future tasks.
- ❖ Continue to have meetings as a board and develop resources as a team.
- ❖ I would appreciate continuing the PLC during the school year where I can network with Summer Institute participants.
- ❖ I would like more information of how to apply these methods in senior math.
- ❖ Continue with PD for us during the school year.
- ❖ I would love to work on a PDIG to create activities / questions to use for the various math strands.
- ❖ in school support and guidance
- ❖ Resource people who could come into your classroom and model lessons, sharing of resources (ex: lesson plans)
- ❖ a follow up to the MSI in a few years would be good to help refresh the strategies. Also, an opportunity to meet and discuss how and what we have been implementing our strategies in our classroom and to share best practices.
- ❖ Access to materials and content that support this way of teaching.
- ❖ It would be so beneficial for our students to have a teacher at every grade who used the same math teaching practices/strategies.
- ❖ Follow up
- ❖ In class visits
- ❖ A chance to meet and plan with others in our schools who have also done this PD
- ❖ I want to see all of our teachers train in the TQE process.

- ❖ follow up sessions throughout the year
- ❖ Creation of activities per cycle - more discussions and sharing
- ❖ Much More Manipulatives, Essential that all teachers in school teaching math understand and include math talk and problems for students to solve - teachers on same page with the student talk and problem solving in math - not teaching to pages in a book. All teachers aligned the thinking and talk math.
- ❖ Follow-up meetings, professional community of practice, coming into classrooms for support. We've had followup meetings through the year.
- ❖ How to better implement Problem Solving for the grade 2
- ❖ more time to meet with colleagues to plan lessons and share ideas
- ❖ Encourage the other staff member to go in the same direction as the one who went to the summer institute.
- ❖ Continued pd throughout the year
- ❖ Continued workshops throughout the year within our board
- ❖ We are working on a PDIG this year with our math consultant focusing on the TQE process. We are using the PDIG opportunity to teach our entire math teaching staff about the TQE process. I think that this will certainly help us, MSI team members and math teachers in our school, to grow professionally after this PD experience.
- ❖ There seems to be a disconnect. The PD is isolated in that those who attend are aware and enriched with information, but the school itself is not a part of the experience. It does not share in the knowledge or aware of what is going on.
- ❖ Lesson planning sessions specific to grade level content; guidance in where to look for English resources in Quebec :)
- ❖ A survey was sent to us by our SB to answer that question.
- ❖ I feel as though we need more access to manipulatives and resources that we cannot purchase due to budget restrictions.
- ❖ More time to work on developing the skills and tools I have learned.
- ❖ Extra help within the school; class observations with a discussion period after.
- ❖ I'm a cross-cycle split teacher and having another teacher in to do the math for one of the grades is much more conducive to teaching math in this fashion, given the time constraints.
- ❖ Funds for manipulatives as well as a p-dig with other teachers to collect and share ideas and best practices.
- ❖ Teachers who change grade levels cannot change their cohort grade level. It would be great to meet with/get ideas from teachers/consultants from other levels.
- ❖ We have a wonderful PLC in place, it would be great if all teachers could be part of it.



- ❖ Time to collaborate with other teachers to develop meaningful tasks that relate to the misconceptions the students may have about a certain concept.
- ❖ Practical strategies and support with students who are below level or have leaning difficulties.
- ❖ Continue with our math pdig , creation of hands on lessons, classroom visits
- ❖ Build a team google drive of hands on activity
- ❖ Manipulatives and technology available
- ❖ Hands on techniques that work and time to talk/exchange with other participants teaching at my level.
- ❖ Follow-up meetings/check-ins
- ❖ Opportunities to meet, observe and plan with other attendees over the course of the school year
- ❖ I would appreciate a visit from my math consultant on how to develop a Math teaching timeline in our 2 Kindergarten classroom at out school or as a school board.
- ❖ Share successful lessons from grade level teachers.
- ❖ Funding for materials
- ❖ Meeting with our group in a school board pd
- ❖ "Continued Ped Day meetings - i appreciate them!
- ❖ A message board to get ideas from other teachers in our board. "
- ❖ Discussing how to implement and manage a large group using the TQE process.
- ❖ More workshops on tasks
- ❖ Workshops for peers in this model of teaching math.
- ❖ We already have supports with our consultants on a regular basis. This is valuable time to continue to develop learning tasks that meet the learning targets of our courses.
- ❖ Teachers have requested access to more rich tasks. We have many great examples in the sessions, but access to tasks that fir the multi-level classes is a challenge for them.
- ❖ Give us release-time to prepare Math centers, games and manipulatives
- ❖ A larger math budget
- ❖ It would be nice to have sessions for resource and how I can incorporate this in acceleration.
- ❖ Release time to meet with colleagues who did not attend
- ❖ time to share the information with other math teachers
- ❖ Time to develop lessons that fit this mode

**From the list of teaching practices below, which three would be your top priority for professional development?**

<b>Teaching Practice</b>	<b>Indicated as first choice</b>	<b>Indicated as second choice</b>	<b>Indicated as third choice</b>
Representing student thinking and key ideas	<b>20</b>	-	-
Orienting students to each other's ideas	<b>18</b>	<b>3</b>	-
Recognizing students as competent contributors towards developing understanding	<b>21</b>	<b>11</b>	<b>1</b>
Eliciting and responding to student thinking	<b>20</b>	<b>18</b>	<b>3</b>
Designing and facilitating rich math activities that allow for student sense-making	<b>9</b>	<b>30</b>	<b>22</b>
Establishing and maintaining expectations for student participation	-	<b>12</b>	<b>16</b>
Identifying and teaching towards an instructional goal	<b>1</b>	<b>6</b>	<b>32</b>
Other topics			
Supporting students with learning difficulties			<b>1</b>
Analyzing student misconceptions/errors			<b>1</b>

\*Not all responses included three options

**What content should be the focus of future PD (i.e. what content area or curricular goal(s) do you feel least prepared to teach conceptually?**

- Situational problems (23)

- Geometry and probability (3)
- designing and facilitating rich math activities (4)
- Operations with fractions (7)
- Place value (4)
- Exponents (2)
- Probability (4)
- Time and measurement (6)
- Decimals (3)
- Long division
- Algebra (5)
- Trigonometry
- Prime factorization
- Questioning (3)
- TQE lesson plans (3)
- Number sense (2)
- Addition and subtraction (2)
- How to implement acceleration properly
- Positive and negative numbers
- Ratio (2)
- Integers
- Look at big ideas
- Math Talk
- Instructional goals (3)
- Solving equations conceptually
- Teacher led lessons versus students hands-on
- Effective use of technology
- Patterns
- Bridging Grade 4 to 5
- Leading students to understanding
- Reading fluency

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

- Great job
- I wonder if this can be done over 2 years instead of 3

- I want to thank the organizers for all their hard work. This must be a massive undertaking! You are wonderful to deal with from beginning to end. You are patient, polite, and great problem solvers. Bravo!"
- Overall, one of the BEST pd I've received!! So thankful for this. It has greatly impacted my teaching.
- I teach math in French and would love to have all the material in French as well. After our sessions I spent many hours looking to make I'm using appropriate terms, some of them I'm still looking for. Ex. Number bonds? I'm not quite sure how I would called that.
- Please continue it for as long as possible!
- Thank you for all the great learning experience!
- Thank you! for asking us to reflect on our experience and to consider what else we need and then doing something to make it happen.
- I know this would entail a lot of work... touching base with teachers in regards to their teaching assignments and allowing switches if possible. Although I have gained a deeper understanding of the philosophy behind DNA math in my 2nd year cycle 1 group, I would have liked to get practical ideas for my new teaching assignment in cycle 2.
- Continue the very good work to support us.
- Thank you for all your hard work (5)
- It's really great PD!!!
- This is such a great experience to gather teachers at a time when they have nothing else to plan. It would be great for all participants to be given opportunity to meet again, after the three years are completed, even if only for one day.
- Great organization, ran smoothly!
- Would it be possible to please provide a little more fruit during the breaks? This year...some of us got no fruit by the time we got to the table.
- keep up the good work!
- None - it is well organized and I look forward to next summer!
- I highly recommend attending this math PD opportunity every year - I wish more teachers from my school would chose to sign up!
- These workshops need to continue. It gave me the boost I needed to modify the way I teach math.
- How to organize the year plan with the concepts to be taught per term
- The organization (registration, meals, information) is always amazing! Keep it up!
- Amazing experience! I am so happy to attend and try out the activities in my classes.
- Show us more videos and more hands on activities for students
- It was once again a wonderful opportunity and I am so grateful to be a part of it. Thank you for all of the organization that went into allowing this valuable opportunity.

# Appendix C

Cohort Four – Year One  
Started Summer 2018

## Summary of the Feedback from Cohort Four – Math Summer Institute 2018

Number of respondents: **n= 80** (70.8%)

	Excellent (1)	(2)	(3)	(4)	Poor (5)	Comment
<b>Experience booking accommodations</b>	51 63.7%	19 23.7%	3 3.8%	5 6.3%	2 2.5%	<p>There was a long delay in the confirmation of my booking. I had to send an email to request the confirmation.</p> <p>When I called the Hotel des Laurentides, they asked me for my credit card. My room was confirmed at St Sauveur Manor, they moved all bookings made except mine, my credit card was charged (317.00) for nothing. We called no refund possible.</p> <p>Booking was very difficult because reservation registration ended up in spam. Also, the actual registration form was tiny on the lpad and one could not complete it online as I am doing with this survey. I then called John Ryan who suggested to call the hotel directly, which I did. However, because it was on the weekend, I could not register; since the reservation agent in charge of LCEEQ bookings was off duty on weekends. Because I teach all day during the week, it is very difficult to call directly. I finally managed to register by printing out the form, photographing it and sending it back to the hotel. By then, I was late and I had to stay at the run down Relais St. Denis for the first night. The room was very hot and the air conditioning system made loud clanks periodically during the night. Needless to say this experience was disappointing.</p>

					<p>The manager was rude and judgmental which completely turned me off.</p> <p>The Manoir was very slow at acknowledging that they received my email reservation for single occupancy, so I was afraid they never received it. Also, despite emailing almost immediately (since it was a first-come first-served basis), my husband and I were assigned a room with two separate beds. The prices for adding someone to the meal plan were grotesque, especially considering the large amount of food made and the number of attendees who did not use their own meal plan and ate outside the Manoir.</p> <p>The few times I called the hotel to confirm or inquire about the room, the agent was extremely rude. I upgraded to a suite for 4 adults and the sofa bed was horrible.</p> <p>Staying at the Manoir throughout instead of being put up in another hotel and having to move back to the Manoir.</p> <p>It was unclear where I was staying the first night and it was difficult to be without a car to keep my things in upon arrival, since I was in another hotel.</p> <p>Beyond your control, but switching hotels was not the greatest. Particularly because the accommodations were much nicer at the Manoir.</p> <p>I never received a confirmation from the hotel regarding my reservation. It was sent to the coworker with whom I was sharing a room. I would've appreciated receiving one directly.</p>
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<p><b>How would you rate accommodations</b></p>	<p>61 76.2%</p>	<p>14 17.5%</p>	<p>4 5.0%</p>		<p>1 1.3%</p>	<p>The check in was a bit long &amp; inconvenient as we were arriving and not able to check in until we were already in the intro session.</p> <p>My friend and I were in 2 different hotels and had to relocate after the first night.</p> <p>The alternative hotel for those who didn't have room at the manoir didn't provide regular beds for both participants sharing the room. The second bed (the fold down bed) was very squeaky and uncomfortable.</p> <p>I asked to have access to the workout room and was denied - quite rudely.</p> <p>I would've loved staying at le manoir all 3 nights as opposed to switching hotels after the first night.</p>
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<p><b>How would you rate the meals</b></p>	<p>56 70.0%</p>	<p>18 22.4%</p>	<p>4 5.0%</p>	<p>1 1.3%</p>	<p>1 1.3%</p>	<p>Have different drink options other than soft drinks and water. Juice would be nice.</p> <p>The meals were so so. Need more vegetables/salads. Too many sauces, oil on the food.</p> <p>The lunch and supper meal options were not always completely healthy. Some of the meat dishes had thick gravies or sauces that were less healthy. If there are meat options, the meat should not have a sauce on top...the sauce can be added.</p> <p>I did not reduce the 'meals' mark, however, snacks were not abundant. I did not have a snack on any day of the event as all plates were empty by the time the line went through.</p> <p>Concerning food allergies...the chefs and maître d'hôtel were not aware whether certain dishes had nuts/peanuts. They responded with vague and imprecise comments such as: "You should be okay to eat the rice." or "I wouldn't take a chance if I were you." I was not allowed to eat any of the deserts during our stay because no one wanted to take the time to go read ingredients. Very disappointing considering they must make meals for so many events (which, without a doubt, includes other people with allergies). I understand that mealtime is very busy for the chefs but they should know in advance that there are food allergies (I mentioned my allergies in the reservation form).</p>
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	Excellent (1)	(2)	(3)	(4)	Poor (5)	Comment
How would you rate the breakout session room	45 56.2%	29 36.2%	5 6.3%	1 1.3%		Too cold in the room (6)  The temperature in my breakout room went from one extreme to another. For most of the three days it was very cold making it an uncomfortable environment.  The break out room was too cold. Hotel in general was too cold.

**Note:** Participants who rated a 3 or greater were asked to comment

	Strongly Agree	Agree	Doubtful	Disagree	Strongly Disagree	Comment
I received all the information required regarding the Math Summer Institute	59 73.7%	25 25.0%		1 1.3%		
I received the information regarding the Math Summer Institute in a timely manner	54 67.5%	23 28.7%	1 1.3%	2 2.5%		
The goal of this PD experience was clear to me prior to my arrival	51 63.7%	23 28.7%	5 6.3%	1 1.3%		
Mathematics is something I'm good at	12 15.0%	52 65.0%	13 16.2%	2 2.5%	1 1.3%	

**Briefly describe how you learned of this event and why you chose to participate.**

- ✓ Math consultant (21)
- ✓ Principal (11)
- ✓ Colleague who had attended (43)
- ✓ Colleague at DSCA
- ✓ My wife
- ✓ No response (3)

**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?**

Response included: (order reflects frequency)

- ✓ Student engagement
- ✓ Rich questioning
- ✓ Use of manipulatives
- ✓ Math talk
- ✓ Showing/Using multiple strategies to solve a problem
- ✓ Students discuss/explore concepts
- ✓ Teacher encourages learner to make understanding
- ✓ Time for exploration
- ✓ Productive struggle
- ✓ Clarity of explanation
- ✓ Differentiation
- ✓ Teacher/Student relationships
- ✓ Clear learning objectives
- ✓ Feedback
- ✓ scaffolding
- ✓ Students justify their answers
- ✓ Teacher knowledge/comfort
- ✓ Student directed lesson(s)
- ✓ Hands-on activities
- ✓ Teacher feedback
- ✓ Collaboration
- ✓ Guiding rather than providing information
- ✓ Ease with which teacher can engage students
- ✓ Students asking clarifying questions
- ✓ How students demonstrate understanding
- ✓ Step by step instruction
- ✓ Verifying understanding
- ✓ Evaluation
- ✓ Quality of lesson

- ✓ Small groups
- ✓ Task variety
- ✓ Context/Concept
- ✓ Use of technology
- ✓ If students are forced to use their brains

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

All the time	1	1.3%
Often	22	27.5
Sometimes	34	42.4
Rarely	16	20.0
Not at all	3	3.8
Not applicable	4	5.0

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

Zero times	7	8.8%
1-2 times	23	28.7
3-5 times	20	25.0
6-7 times	19	23.7
8-10 times	7	8.8
Not applicable	4	5.0

**Briefly list and describe some factors that influence how often manipulatives are used in your lessons**

- ✓ Time (28)
  - ✓ Availability (32)
  - ✓ Topic/content (18)
  - ✓ Knowledge of how to use them (29)
  - ✓ Students always encouraged to use (2)
  - ✓ Student behaviour (2)
  - ✓ Student age/maturity (3)
  - ✓ Use with struggling students (2)
  - ✓ I do not have time to research and learn how to use them
  - ✓ Classroom management hinders my use...I find it chaotic when things are falling off the table
  - ✓ When introducing something new (2)
  - ✓ Don't use (2)
- (Not all answered the question)

	Strongly Agree	Agree	Doubtful	Disagree	Strongly Disagree	Comment
The content of the workshops at the Summer Institute was representative of my needs as a Mathematics teacher	53 66.3%	23 28.7%	3 3.7%	1 1.3%		
The amount of content in the breakout sessions was appropriate	50 52.5%	24 30.0%	4 5.0%	2 2.5%		
The pacing of the breakout sessions was appropriate	49 61.3%	23 28.7%	6 7.5%	2 2.5%		

**If you disagreed with any of the statements, please indicate why:**

- The content was appropriate but sometimes the discussions were long so more content could have been covered.
- Students need to be presented with rich tasks and have opportunities to talk about them in order for students to develop their understanding of concepts. Once the concept is understood, then we connect it to the expression. I think for many teachers, they are not aware of how important it is for students to understand the concept. Once the concept is understood, then we connect it to the expression.

My understanding is that the purpose of these institutes is for teachers to recognize how they have to situate their teaching so that students are in a position to make these aforementioned discoveries. I think this link was lost in my session and I was confused as to where the presenter was headed.

After viewing a video with Julie Dixon- the connections were clear and I had my “aha” moment as to how the previous days’ activities were connected.

Another consideration is that the range of math knowledge and teaching knowledge was very diverse. We had people with little math knowledge all the way to skilled math teachers. The range also involved a diverse understanding of math from arithmetic to algebra to pre calculus.

- Many of the concept-teaching methods were already known to me. I found that the videos were helpful in order for me to grasp how to let the students find some strategies by themselves. However, the pacing was not quick enough. I wished for more concrete lesson plans on more key-concepts instead of spending time solving puzzles.
- the breaks in between the breakout sessions were too long
- I found that the facilitator for my group spent too long on certain examples. There was too much time spent on discourse, which I know was the point of the sessions, and not enough practical strategies from him, an expert, to take back to our classes. However, the pacing did improve in the last sessions.
- We did not go through much of the content in our binder. We stay on the same concepts for much too long when it could be done in half the time.
- We spent an entire day discussing fractions!!! And then the next day discussing proportions-it was too slow and not grade 9

- I felt that we spent much too long on each topic that was presented and therefore did not get to them all (i.e., geometry). I would have liked to have started with overviews of each section and then delve deeper. Also, almost all of the examples were geared for grade 2 or even higher. I was hoping for more examples for kindergarten.
- We didn't get very many strategies or things to use in our classroom.

**How would you rate the presenter's facilitation of your breakout session?**

Presenter	Number of respondents	Excellent (1)	(2)	(3)	(4)	Poor (5)
Thomasenia Adams	21	52.4	33.3%	14.3%		
Juli Dixon	23	100.0%				
Ed Nolan	18	77.8%	22.2%			
George Roy	18	55.6%	16.6%	11.1%	11.1%	5.6%
<b>Total</b>	<b>80</b>					

**What feedback could we give the presenter in your breakout room to improve your experience in the future?**

**Thomasenia Adams:**

- More hands on breaks to work with math manipulatives among the theory
- I wish that there were more key-concept strategies covered. I would have liked to see how odd/ even numbers were taught, strategies for teaching rounding to the nearest ten, unit of measurement conversion teaching techniques, teaching math vocabulary in order to retain it. I felt that we could have benefited from short movement breaks since the room quickly turned cold when the doors were closed. I would love to see more use of manipulatives.
- It's ok leave us (teachers) struggle to get a feel of what students go through but after a few minutes we get the point. We don't have to go through 10-15 minutes of struggling.
- I like to see videos of teacher in reality (in class)
- More room for sharing personal Experiences"
- We did not get through our whole package, therefore better time management.

- I would have loved to have more concrete examples of what to do in my k classroom.
- To hear approaches we use in our class when solving the different math skills with our skills.
- I simply have positive feedback that I was happy that the session was not completely theory based - we were given time to build manipulatives, which is highly appreciated!
- Very active in her teaching

**Juli Dixon:**

- She was excellent. I would change nothing.
- I found the hands-on activities particularly eye-opening. Including these in her presentation allowed me to put myself in my students
- She was excellent. Though I wish we had more time to slow down the pace and perhaps try to spend a little bit more time to put in practice some of the things we learned together.
- The presentation was very well done. I would have been grateful for a copy of the 3-5 book to look at while at the conference.
- Have us create or give us manipulatives that we can take into our classrooms. If we've used them before, we will be more at ease to use them with our students.
- More short breaks
- An excellent balance of videos, anecdotes, information and activities for us to try and build on. Very highly enjoyable! Even more manipulatives would be fun to explore, but because learning is fun. I wouldn't say it was missing from the original presentation.
- I couldn't have enough! Time flew by so fast! :) I wanted to learn more, see more examples! haha That's good, I guess!  
This week, after 5 days of being in my class, I was a bit confused of where to start, once in my class. Talked with my Cohort 2 partners. They talked about a book which offers " Good questions for Math teaching" by Peter Sullivan.  
I guess that will help us. Having book titles of literature that could help us once back in class would be great.
- When we register in the first year, it would be great if we were offered the possibility to buy the book ( for our level) and get it with our binder, on the first day or at the end of the week. ( so we can read about everything we learned, in the next few weeks, before school starts)! ;)
- More days in the conference! It was so important to my teaching of math.
- more :))
- We didn't make our own manipulatives but I still felt like I took a lot away from it all.

**Ed Nolan:**

- More time to explore what we learned. For example, multiplication, division. I am still not entirely comfortable with the division. I need to review it many times to think in that way. Old habits are hard to break!
- He was fabulous, knowledgeable , and approachable. He and Juli Dixon have inspired me to modify my math instruction.
- Move the discourse between attendees along a bit faster so that he can provide his own professional input and provide us with more practical strategies to use in our own classes. We were behind schedule and did not finish the slides for which we were provided notes. I say this because he is so knowledgeable and truly got me into the growth mindset, so I was excited to learn even more of his strategies.
- More hands on would be great.
- I thought the pace and use of real classroom video was great. I especially liked the assigned tasks that allowed teachers to live how students can get excited about math if we let them share/find their own strategies



- I really appreciated Ed's dynamic and energetic approach. I loved his use of humor and jokes. I would've enjoyed more activities that prompted us to get up, change tables, and work with different people, to see how others think about, explain, about and solve problems. Ed used modeling very effectively. Thank you!
- I thought he was funny & easy to follow & listen to.
- Turn down the Air Conditioning lol. I think to save a bit of time it would be easier if the videos that were shown were embedded in the
- It would be beneficial to change our break out groups within our sessions to gain different insights.

**George Roy:**

- It is not necessary to have everyone speak. As a teacher, I am very comfortable in front of students but not as much in front of peers. It made me very uncomfortable to know that my name could be called at any time that it made me lose my focus as to what the presenter was saying. It was a very negative point for me.
- I was very impressed with the way he engaged the group and provided the time required to speak with colleagues/other teachers from Quebec. It is something I do not feel we do enough at our school, so it was fascinating to be able to interact with others on the topics in depth. The only item I can mention to improve on would be more time to use or try different types of manipulatives during the session.
- Cover more material
- Excellent speaker . He really connected with us but he needed to pick up the pace
- It would have been useful to meet on our arrival. The first evening we were mixed with many others and were kind of alone in a crowd. A boundary-breaker activity within the cohort on their arrival would be a good start!
- Shorten some discussions to give more classroom tools
- Provide rich activities with the concepts they impact in the PoL for a given grade level.
- Needs to be clear about his focus and how his content is related to it.
- "Parfois, les discussions déviaient du sujet. Il serait approprié que l'animateur n'hésite pas à interrompre les monologues qui traînent en longueur. Sinon, bravo pour cette belle animation dynamique et la touche d'humour qui fut très appréciée."
- I really enjoyed learning and am glad its a multi year PD.. it gives me time to go back to my class.. try things out.. and then come back next year to discuss.. question, etc. I would of liked to learn more about using manipulatives in the high school level but also I realize we ran out of time.

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

- Time to meet and create tasks and share what we have tried and how things went.
- Visit the classrooms and see if we need help with implementing the lessons. Being able to support us if we have any questions and need suggestions to move forward.
- Provide me with manipulatives to help my students develop sense making of mathematics and time to plan quality lessons with colleagues. I'd love to have Juli or Ed teach a lesson in my class.
- More training with manipulatives for various levels, more time to compare and collaborate with other teachers to provide richer, more student-centered discourse-based teaching
- Our math consultant was at the institute this summer so it would be helpful to meet and discuss with him how we can use the math program we are currently using and make the student based inquiry part of the lessons.
- Get some of the materials/ manipulative that were used in the session to be able to apply what we learned.
- Some help to plan appropriate tasks based on our target learning goals.
- Release time to collaborate with other teachers on the team and to share the information gathered during the Math Institute.
- TIME! Time with fellow teachers who did the same workshops to discuss what they have tried, what worked, what didn't, etc. in order to build on the new ideas from the Math Institute.
- money for manipulatives (3)
- Watching another teacher teach the same way to get ideas or to have the opportunity to meet with teachers teaching the same level who have been to the math summer institute. To brainstorm together...
- Having discussion groups with other teachers in our board that are teaching at the same level.
- Meeting with others who went to the DNA workshop and maybe share experiences good and bad about trying some of the strategies learned during the conference.
- I would appreciate the development of a math network of teachers to share with.

- It would be helpful if those who participated in the Summer Math Institute could meet at least once during the school year to discuss how we're incorporating what we've learned in our classrooms and schools and/ or what challenges we're facing. Many of us are at different schools and I think it's too long to wait for another year to pass until we all meet. It would be also nice to connect with other cohorts to network and collaborate on math projects.
- Provide concrete examples of teaching with these methods.
- Meeting with my colleagues to further discuss what we experienced and learned.
- Having all administrators understand this growth process and have them willing to encourage/support it.
- Meetings with other teachers and observations
- Manipulatives, follow up with consultants, build teams from the event as a support group
- Smaller class size
- Time allotted for math teachers to meet and discuss strategies.
- Paid substitution to allow us to meet with other teachers in our cohort once a term.
- Have some more PDIG times for the Math department of each school to discuss the effects of the institute with fellow teachers
- PLC with members of the cohort and support from the consultant.
- ongoing professional development throughout the year
- Planifier, dès le début de l'année, des rencontres de suivi et des moments d'observation en classe par les pairs (et le conseiller pédagogique).
- Maybe some team teaching with the math consultant...
- Release time to brain-storm with other teachers on how we are trying to implement these new strategies into our classrooms.
- Time to plan and share this experience with our teachers at our schools
- A PD session on Manipulatives
- release time to go into other classrooms where teachers are doing this.. and/or flexibility to team teach.. I need to see this in the classroom.. have someone come into mine. I need feedback and someone to help bounce ideas, etc with.
- In person access to a math consultant
- Opportunities to communicate between teachers.
- Opportunities to meet & discuss successes & challenges

- Have follow up workshops on Ped Days where teachers describe how they put these strategies to use in their classrooms.
- Follow up from our Math consultants. Release time to plan and prep targeted lesson based on what we've learned at the institute.
- More manipulatives
- Math workshops as follow up to our training.
- Ongoing half day PD sessions to reinforce / continue the learning from this summer session (2-3 times a year)
- Follow Up PD sessions to help develop activities, manipulatives, time to meet and plan with colleagues.
- Providing book, meeting time with other colleagues who have attended to solidify learning
- Create a common group online where discussions/files could be shared. Invite teachers from different cohorts who are doing the same levels to observe each other and/or create lesson plans together.
- Monthly release to attend concept-specific math workshops.
- More accessible manipulatives! Or a catalogue to see what we have access to already.
- Review and introduce us to newer manipulatives with lessons
- provide the books that will help us teach in this new way : A) Making Sense of Mathematics for Teaching, B) Good Questions for Math Teaching by Peter Sullivan, C) more manipulatives for our class ( Base ten blocs, etc...)
- Continuing the Math Summer Institute will allow teachers who have attended, the opportunity to continue to make changes in the way they teach. It would be great to share with the rest of the staff in our school so that we can all build on what has been taught.
- release time to work with math consultants and more workshops
- Meet ups during the school year to compare how things are going and to get ideas from other teachers.
- Have the consultant come to school for follow ups.
- Follow up sessions and resources (manipulatives etc.)
- A chance for people going to the institute to get together in order to share.
- Continue to have some time to talk with our colleagues and plan some tasks to go with every topic.

- My math consultant could visit more often to model and sit in on lessons
- Increased opportunities to share what we've learned at the institute and share the techniques we've tried
- It would be very beneficial to provide us with the necessary math manipulatives in sufficient quantities in order for us to let the children experiment and have them learn. I would love for our math coordinator to create a month by month mapping of key concepts to be taught at our grade level. Ideally, this would come with methods/strategies, techniques, free online interactive resources and a list of materials to be used.
- more sharing between teachers
- Showing how to launch every new concept.
- Follow ups throughout the year and refresher breakout sessions.
- More pd in same vein as what was covered this summer, in-class modeling/ team teaching/visit best practices classes
- I think that they should continue to give us “reminder workshop”
- Regular release time to reconvene with cohort
- For the School board to offer the books to each school where teachers have attended the workshops to help implement the new ways to teach.
- PD time to work with the colleague in my school (cycle) to review the material and plan some lessons.
- Provide concrete examples of lessons for the k level including manipulatives and how best to use them.
- Connections to understand the QEP and the progression of learning based on mathematics.
- Time to plan (PD) with fellow colleagues.
- To help with ensuring appropriate manipulative are available for us to use with our students. Help develop the higher level thinking questions that we need to be asking our students.
- More PD within the school to see how this information is being used. More opportunities to connect with other teachers and providing more manipulatives (Base 10 blocks!).
- Continued support for collaboration with fellow cohort members during the school year and in the classroom with students. Continued building/funding of the schools' supply of math manipulatives. Time to share with teachers who are not in the math institute lessons learned so that every teacher and every student benefits from a heightened math experience.

**From the list of teaching practices below, which three would be your top priority for professional development?**

Teaching Practice	Indicated as first choice	Indicated as second choice	Indicated as third choice
Representing student thinking and key ideas	22	-	-
Orienting students to each other's ideas	20	4	-
Recognizing students as competent contributors towards developing understanding	20	12	1
Eliciting and responding to student thinking	10	27	4
Designing and facilitating rich math activities that allow for student sense-making	8	30	29
Establishing and maintaining expectations for student participation	-	4	16
Identifying and teaching towards an instructional goal	-	1	18
<b>Other:</b>			
Increase ways to reach all students	-	-	1
Evaluating and tracking progress			1
Guiding students in showing their work			1
Developing project-based learning in High school			1

**\*Not all respondents offered three options**

**What content should be the focus of future PD (i.e. what content area or curricular goal(s) do you feel least prepared to teach conceptually?**

- Situational problems (11)
- Geometry (6)
- designing and facilitating rich math activities
- Fractions (15)
- Place value (3)
- Keeping students engaged after several weeks of place value

- Time (2)
- Measurement (3)
- Money
- Planning – using manipulatives
- Evaluating/Assessing (2)
- Decimals (4)
- Long division
- Algebra (8)
- Number sense
- Order of operations
- Probability (5)
- Statistics (4)
- Questioning
- Percentage and ratio (3)
- Multiplication
- Addition and Subtraction
- Use of manipulatives
- Math talk tasks (2)
- Managing anxiety particularly with MEES exams
- Making connection among concepts
- Data management
- Outside the box teaching
- Differentiation
- Developing critical thinking
- How to apply these concepts in High School
- Vectors
- 100 charts
- Keeping students engaged
- More time for student invented strategies

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

- It was an amazing experience and I am thankful for the opportunity to implement and work with the strategies learned and then return to the institute. Too often there we go to amazing PD and then after a period we forget the inspiration. The way the institute is organized allows us the opportunity to continue the momentum from year one and "re-energize" us with strategies the second year.
- Can we make next year a Wednesday to Friday please?
- Simply a thank you for organizing this event and I look forward to next August.
- Thanks so much! (4)
- I felt the summit was very well organized and I enjoyed my time there. I look forward to learning more.
- Send out a list of the other teachers that are coming before the hotel arrangements are made so that you can contact former colleagues/friends to share a hotel room with or to arrange carpooling with.  
Secondly, many teachers did not know this was a three year commitment when they signed up. This needs to be clear from the get go.  
Third, since I had never heard of this PD experience, more advertising should be done."
- My suggestion for snack time would be to serve the different groups at different times and to ensure that there are enough healthy choices for everyone to have. ( cheese, crackers, fruit, yogourt, vegetables with dip, nuts instead of cookies) Also, it would be nice for other hotel guests who are not entitled to these goodies to be made aware that they are for conference participants only. I would love to have access to the DNA literature for free. It would be enjoyable to do a session outside during the week. The animator might plan a hands-on lesson away from the conference room where we have to experiment with our environment. The room temperature was so low that it gave me a headache.
- I would have appreciated longer breaks during the sessions. I found the sessions a bit long to remain seated. I would suggest starting them earlier and adding in longer break periods.
- I loved that you gave away math manipulatives at the end of institute. This is a great way to encourage teachers to put their new learning into practice."
- Being able to switch groups to better understand how to teach math to my current students (I changed cycle over the summer)
- It would be nice to be able to sign out some of the reading material while we are at the hotel.
- The Summer institute was very well organized, enjoyable, and a great learning experience.
- I really enjoyed my first year !
- My first year managed to beat my already high expectations. I can't wait for next year! Thank you!
- Il serait intéressant de changer les équipes à l'intérieur du groupe, d'une activité à l'autre, pour échanger avec différentes personnes de différentes commissions scolaires. Il faudrait aussi s'assurer de prendre le temps, à la fin, de revenir sur les objectifs personnels que nous



nous fixons et d'évaluer l'atteinte ou non de ces objectifs et les raisons qui le justifient. Merci beaucoup à toute l'équipe pour cette merveilleuse occasion de DP et pour créer un lieu d'échange et de partage riche en contenus et en souvenirs."

- We could 'make' more tools that could be done with the students. Ex: making a clock, rekenrek,
- Excellent, enriching workshop so far!
- Look over content of grade 9 session and ensure it is right level
- It was an AWESOME week! :) :) Trying to convince more people from our school to go, so all cycles are part of this shift in teaching!
- It was very well organized, and it was a very welcoming atmosphere - everyone I met was kind and supportive.
- Your enthusiasm and dedication to helping teachers become better math teachers is so impressive. I walked away with so much not just for math but for my overall teaching. Thank you so much!
- I feel very lucky to be a part of this pd project
- Thank you for your kindness, dedication and time for planning the event and ensuring that it ran so smoothly. We were treated so well the entire time and there was always someone around to answer our questions or guide us to the right room.
- The set up is wonderful with an appropriate amount of "think time" and "reflection time". Could not be better!
- It was a lovely few days!
- Everything was so well organized and well thought out. Truly the best workshop I have attended since becoming a teacher.
- I would like there to be a breakout group strictly for K. Though I appreciated being included with Cycle 1, some of the content presented was far above a K level.
- A 10 minutes break is not enough time to wait in line, eat and maybe go to the washroom.
- We need to have another session next summer, it has already made a difference in my teaching.
- I felt the PD was excellent and it ran smoothly. It was great!
- A very smooth well run workshop!
- This was the most useful PD I've attended.
- I loved your energy and passion! You were all inspirational. I want to make positive changes in the way I am approaching teaching math.
- I'm grateful for the extensive information presented. I appreciated the pace, level of content, and opportunity to speak to colleagues about my thinking.
- I really enjoyed my first experience with the Math Summer Institute and look forward to continuing the journey.