Project Name	PLC-Math Leadership Team
Grant Type	Professional Development
Start Date	September 3, 2019
End Date:	March 16th 2020 (due to Covid-19)
Project Manager	dingmanm@edu.etsb.qc.ca
Number of Substitution Days	6

Team Members (email)

hendersond@edu.etsb.qc.ca	3/6 days
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norriek@edu.etsb.qc.ca	2/6 days
beaulnem@edu.etsb.qc.ca	2/6 days
huckinsk@edu.etsb.qc.ca	2/6 days
Total Days	24/60

School Administrator

zarahc@etsb.qc.ca

Subject Area(s) of the Project   **Mathematics**

Levels   **Kindergarten & Elementary C1 C2 C3**

Project Description

Describe/show to what degree the project was carried out as planned. Include what went well and what proved to be a challenge. Include a synthesis of your journal entries.

Project Goals

Describe/show to what degree the goals of the approved project were met. If the goals were only partially met or not met at all, describe the reasons for this.

Project Outcomes

Describe/show the gains that the participating teachers achieved through this project.

Reinvestment

Clearly describe how the resources created and/or the learning achieved by the participants can be of benefit to the educational community at large. If applicable, comment on whether or not this project should be carried out by other teams and if so, how it could be improved.

Final Report Write a report in professional manner and suitable for posting on the LCEEQ website.

Participants

Coming into our third year in the PLC process, the administration, staff member participants, and the organization committee (previously called Leadership Team) began to plan, prepare and implement pathway 1 to begin in the new school year. All staff were provided the opportunity to decide if they wanted to participate in the PLC for the new school year. All cycles were represented in the PLC for this new year, and at least two members from each cycle participated.

As you will see, one of our staff participants did not take any days, this is due to being the only individual in her cycle to participate this year. To ensure the same opportunities for learning were available for her students, our administrator was able to allocate time for a staff member to reshuffle with her group, and complete the same process as the rest of the cycles.

Project Summary

The 2019-2020 school year was enriching, fulfilling and has had a profound impact on the planning, alignment, and professional development of the teachers from kindergarten to grade six. After the introduction to Professional Learning Community (PLC) in 2016-2017, with the support of Mr. François Massé, a visit to a PLC school, and team discussions on the process, the staff embarked for another year in a full implication of the PLC in the school, preparing for 3 sessions of 8 week pathways for 2019-2020. We have realized as a staff community the PLC will always be an ongoing learning process, and with this many of our team members have continued to attend workshops and conferences to further our understanding and skills. The most recent conference has been the LCEEQ Summer Math Institute, where we have all cycles and grade levels represented. This has provided all attendees with valuable information and tools to implement alongside the PLC.

With new members to the PLC and Organization Team, we took the beginning of our preparation to explain the PLC process, ensure all members felt part of the PLC community, and created a healthy team atmosphere to move forward successfully in our year. We ensured within our own cycle teams, and as a whole school that our curriculum was aligned in Math from K to grade 6. We were able to use data from the previous year to decide if essential knowledges or assessment questions were still sufficient or needed to be adapted. Teams conversed in pedagogical conversations to make these tough decisions. Using the data collected from the previous year, we were able to pinpoint higher areas of struggle, and focus our attention on specific areas. As you will see in the data sheets, we have made growth across all cycles, between the 2018-2019 years, comparative to the 2019-2020, for most of our essential knowledges. The data sheets resemble the growth we will be using this data to analyse and align our teaching accordingly to the weaker areas of success by our students.

Cycle 1 Growth Data - Pathway 1 (2018-2019)

Post Assessment Data of 77 students					
2 students added for this assessment	**Essential 12-L/C**	**Essential 12-L/D**	**Essential 13-M**	**Essential 15-O**	**Essential 16-P**
	I can compose a natural number in a variety of ways	I can decompose a natural number in a variety of ways	I can identify equivalent expressions	I can write any natural number to 1000	I can read any natural number to 1000
Cycle	31 Red = 40%	50 Red = 65%	35 Red = 46%	40 Red = 52%	33 Red = 43%
77 students	13 Yellow = 17%	7 Yellow = 9%	25 Yellow = 32%	12 Yellow = 16%	13 Yellow = 17%
2 students added for the final pathway a	33 Green = 43%	20 Green = 26%	17 Green = 22%	25 Green = 32%	31 Green = 40%
Grade 1	24 Red = 65%	33 Red = 89%	25 Red = 68%	25 Red = 68%	28 Red = 76%
37 students	3 Yellow = 8%	1 Yellow = 3%	8 Yellow = 22%	6 Yellow = 16%	2 Yellow = 5%
1 student added for this assessment	10 Green = 27%	3 Green = 8%	4 Green = 10%	6 Green = 16%	7 Green = 19%
Grade 2	8 Red = 20%	17 Red = 43%	10 Red = 25%	15 Red = 38%	5 Red = 12%
40 students	10 Yellow = 25%	6 Yellow = 14%	17 Yellow = 43%	6 Yellow = 14%	11 Yellow = 28%
1 student added for final	22 Green = 55%	17 Green = 43%	13 Green = 32%	19 Green = 48%	24 Green = 60%
Cycle Analysis	Red down 38%	Red down 23%	Red down 29%	Red down 29%	Red down 33%
	Yellow up 6%	Yellow up 4%	Yellow up 17%	Yellow up 9%	Yellow up 10%
	Green up 32%	Green up 19%	Green up 11%	Green up 20%	Green up 23%

Cycle 1 Growth Data - Pathway 1 (2019-2020)

Diagnostic Data	ARITHMITIC									
	Essential 1		**Essential 2**		**Essential 3**		**Essential 4**		**Essential 4**	
	I can compose a natural number in a variety of ways		I can decompose a natural number in a variety of ways		I can identify equivalent expressions		I can write any natural number to 1000		I can read any natural number to 1000	
PRE	28	88.00%	29	91.00%	21	66.00%	24	74.00%	19	59.00%
32 students	1	3.00%	2	6.00%	4	13.00%	4	13.00%	6	20.00%
	3	9.00%	1	3.00%	7	21.00%	4	13.00%	7	21.00%
Mid	21	68.00%	25	81.00%	22	72.00%	22	72.00%	20	66.00%
31 Students	3	10.00%	2	6.00%	2	6.00%	3	10.00%	6	18.00%
	7	22.00%	4	13.00%	7	22.00%	6	18.00%	5	16.00%
Post	14	42.00%	25	76.00%	15	45.00%	21	64.00%	15	45.00%
33 Students	8	25.00%	1	3.00%	12	36.00%	2	6.00%	5	15.00%
	11	33.00%	7	21.00%	6	19.00%	10	30.00%	13	40.00%
GROWTH										
Cycle 1	Down 14	42.00%	Down 4	12.00%	Down 6	18.00%	Down 3	9.00%	Down 4	12.00%
	Up 7	21.00%	Down 1	3.00%	Up 8	24.00%	Down 2	6.00%	Down 1	3.00%
	Up 8	24.00%	Up 6	18.00%	Down 1	3.00%	Up 6	18.00%	Up 6	18.00%

Cycle 2 Growth Data - Pathway 1 (2018-2019)

Grade 3

	Essential 1	Essential 2	Essential 3	Essential 4
	Write any natural number	Read any natural number	Coventional processes to subtract numbers up to 4 digits	Decompose natural numbers
Pre-assessment				
	17%	7%	20%	15%
	30%	25%	35%	5%
	53%	68%	45%	80%
Mid-assessment				
	40%	52%		22%
	23%	13%		13%
	37%	35%		65%
Post-assessment				
	59%	62%	22%	46%
	18%	14%	43%	27%
	22%	24%	35%	27%
GROWTH				
Those who scored in green	Green up by 42%	Green up by 55%	Up by 2%	Up by 31%
Those who scored in red	Red down by 15%	Red down by 44%	Down by 10%	Down by 53%

Grade 4

	Essential 1	Essential 2	Essential 3	Essential 4
	Write any natural number	Read any natural number	Coventional processes to subtract numbers up to 4 digits	Decompose natural numbers
Pre-assessment				
	37%	26%	38%	22%
	22%	22%	24%	7%
	41%	52%	38%	71%
Mid-assessment				
	42%	40%		44%
	27%	18%		18%
	31%	42%		38%
Post-assessment				
	73%	69%	42%	56%
	18%	22%	33%	11%
	9%	9%	24%	33%
GROWTH				
Those who scored in green	Up by 36%	Up by 43%	Up by 4%	Up by 34%
Those who scored in red	Down by 32%	Down by 43%	Down by 14%	Down by 8%

Cycle 2 Growth Data - Pathway 1 *(2019-2020)*

Diagnostic Data	ARITHMITIC AND ADD/SUBTRACT									
	Essential 1		Essential 2		Essential 3		Essential 4		Essential 4	
	I can write a natural number		I can read any natural number		Conventional processes to subtract numbers up to 4 digits		Decompose natural numbers		Mad Minute Subtraction	
PRE	12	22.00%	13	24.00%	24	44.00%	34	62.00%	30	55.00%
55 Students	7	13.00%	8	15.00%	20	36.00%	2	4.00%	7	13.00%
	36	64.00%	33	61.00%	11	20.00%	19	35.00%	18	33.00%
Mid	8	14.00%	6	10.00%	22	38.00%	10	17.00%	22	58.00%
58 Students	2	2.00%	12	21.00%	7	19.00%	7	12.00%	7	12.00%
	48	83.00%	40	69.00%	41	43.00%	41	71.00%	29	50.00%
Post	7	13.00%	1	2.00%	3	5.00%	13	24.00%	20	36.00%
55 Students	4	7.00%	8	15.00%	23	42.00%	6	11.00%	6	11.00%
	44	80.00%	46	84.00%	39	53.00%	36	65.00%	28	51.00%
GROWTH										
Cycle 2	Down	9.00%	Down	2.00%	Down	38.00%	Down	38.00%	Down	18.00%
	Down	3.00%	Same	0.00%	Up	5.00%	Down	7.00%	Down	1.00%
	Up	14.00%	Up	23.00%	Up	51.00%	Up	30.00%	Up	18.00%

Cycle 3 Growth Data - Pathway 2 (2018-2019)

Diagnostic Data	Essential 1	Essential 4	Essential 9	Essential 11
	I can write a natural number	I can decompose a natural number	I can classify numbers (even, odd, prime, composite, square)	I can represent the power of a natural number
PRE	11 Red = 18%	14 Red = 23%	22 Red =37%	29 Red = 48%
Grade 5-6 (60)	3 Yellow = 5%	12 Yellow = 20%	19 Yellow = 32%	12 Yellow = 20%
	46 Green = 77%	34 Green = 57%	19 Green = 32%	19 Green = 32%
Mid	13 Red = 22%	40 Red = 67%	22 Red = 37%	27 Red = 45%
Grade 5 - 6 (60)	4 Yellow = 7%	6 Yellow = 10%	25 Yellow = 42%	12 Yellow = 20%
	43 Green = 72%	14 Green = 23%	13 Green = 22%	20 Green = 33%
Post	4 Red = 7%	5 Red = 8%	18 Red = 30%	9 Red = 15%
Grade 5 - 6 (60)	14 Yellow = 23%	8 Yellow = 13%	18 Yellow = 30%	7 Yellow = 12%
	41 Green = 68%	46 Green = 77%	23 Green = 38%	43 Green = 72%
GROWTH				
Cycle 3	Down 11%	Down 15%	Down 7%	Down 33%
	Up 18%	Down 7%	Down 2%	Down 8%
	Down 9%	Up 20%	Up 6%	Up 24%

Cycle 3 Growth Data - Pathway 1 *(2019-2020)*

Diagnostic Data	ARITHMITIC				ADDITION AND SUBTRACTION			
	Essential 1	Essential 2	Essential 3	Essential 4	Essential 2	Essential 3	Essential 8	Essential 9
	I can write a natural number	I can decompose a natural number	I can classify numbers (even, odd, prime, composite, square)	I can represent the power of a natural number	I can determine the sum of two natural numbers up to 4 digits	I can detemine the difference of two natural numbers up to 4 digits	I can follow the order of operations	I can determine the missing term in an equation
PRE	12 20.34%	43 72.88%	47 79.66%	34 57.63%	9 15.25%	22 37.29%	44 74.58%	53 89.83%
Grade 5-6 (59)	11 18.64%	11 18.64%	9 15.25%	7 11.86%	8 13.56%	15 25.42%	14 23.73%	4 6.78%
	36 61.02%	5 8.47%	3 5.08%	18 30.51%	42 71.19%	22 37.29%	1 1.69%	2 3.39%
Mid	3 5.17%	24 41.38%	36 62.07%	10 17.24%	8 13.79%	18 31.03%	33 56.90%	50 86.21%
Grade 5 - 6 (58)	10 17.24%	16 27.59%	13 22.41%	4 6.90%	11 18.97%	15 25.86%	11 18.97%	7 12.07%
	45 77.59%	18 31.03%	9 15.52%	44 75.86%	39 67.24%	25 43.10%	14 24.14%	1 1.72%
Post	4 7.14%	19 33.93%	16 28.57%	8 14.29%	3 5.26%	13 22.81%	35 61.40%	49 85.96%
Grade 5 - 6	9 16.07%	17 30.36%	32 57.14%	1 1.79%	11 19.30%	12 21.05%	12 21.05%	5 8.77%
Arithmitic (56) Add/Sub (57)	43 76.79%	20 35.71%	8 14.29%	47 83.93%	43 75.44%	32 56.14%	10 17.54%	3 5.26%
GROWTH								
Cycle 3	Down 13.20%	Down 38.95%	Down 51.09%	Down 43.34%	Down 9.99%	Down 14.48%	Down 13.17%	Down 3.87%
	Down 2.57%	Up 11.71%	Up 41.89%	Down 10.08%	Up 5.74%	Down 4.37%	Down 2.68%	Up 1.99%
	Up 15.77%	Up 27.24%	Up 9.20%	Up 53.42%	Up 4.25%	Up 18.85%	Up 15.85%	Up 1.87%

The school team decided to continue to move forward with an Organization Team, rather than the Leadership Team. We wanted to make the PLC feel like a team community, where we all have equal voices. The purpose of the Organization Team this year was to ensure all cycles were working in unison, the teams were aligned across cycles, to address any questions, or concerns related to the PLC.

We have come together as a school team to discuss the positive and impactful effects of PLC and RTI, through workshops, conferences, and academic conversations, to further extend our impact through the PLC. This year, our teaching schedules allowed us to work in collaborative settings, having all the same grade levels with 3 math blocks at the same time. This allowed us to have more exchanges and opportunities to teach and grow together. Having the schedule support our teaching direction as a whole, encouraged more collaboration and communication between team members.

With the new schedules in place, and collaboration amongst cycle teams, the PLC was going very well, our data was being collected, and we could already see the positive impacts the PLC created in such a short period of time. As a school, our plan was to continue and complete all 3 pathways, review our final data, and compare our results

between the last 2 years. However, due to Covid-19 the whole world stopped for a moment, including the school systems. We had an abrupt stop to our PLC, and with schools only reopening in mid May, with non-mandatory attendance from students it was not possible for us to continue our pathways for this year. Our hope is to continue the PLC process, beginning with pathways in the new school year, if our school culture and guidelines in place will allow for us to do so. The PLC process has made a difference in our teaching, our students learning, and we do not plan on giving up on the process, but are well aware we may need to "pause" this plan until it is safe and appropriate to continue.

Project Goals

The project goals included a priority list for the essential knowledges, a clear picture of scheduling, a system for reshuffling students and interpreting the data collected from assessments, tools and resources to support their teaching during the reshuffling teaching time and a support system for when things get difficult. The initial goal was that all the staff, the students, and the community work together to attain success for ALL our students through the PLC framework. This would require a change in the school culture and create a foundation for a cohesive and collective school team.

Day/Time Block   Day 1/Organization Committee
Start of year

Activities & Related Goals   The Organization Committee met and reviewed the pathways for all 3 cycles, including assessments, data sheets, and resources to ensure all teams had the proper tools to get started for the first pathway. As a team, we discussed the modified students in our school, and how we could best support them in this learning process. Now that our math blocks are aligned, it made us possible to create the best learning situation for all of our students. It was decided the students

would complete their level assessment, and when we reshuffled students they would be reshuffled within their level to have the same impacts as the rest of the students. We left it up to the cycle teams to decide if any essential knowledges' would need to be adapted or changed. If they were the member on the Organization Committee, they would need to ensure the cycles were still aligned from K to 6. As a committee we made sure to communicate with our own cycle teams that we would be a committee to make sure assessments and the process was running smoothly, but cycles would be making more decisions to create a more collaborative process. Prior to the start of pathway 1, we made sure all cycle members have their toolbox of tools purchased and materials were shared with the proper cycle.

Day/Time Block   Day 2/Cycle Release Day

Beginning or Middle of Pathway 1 (September 8 - November 1)

Activities & Related Goals   Each cycle team was released throughout pathway 1. It was left up to each cycle when they would prefer to be released, the beginning, middle, or end of their pathway. Each cycle team took notes from their meetings, and posed any questions or concerns to their team member on the Organization Committee. All teams were able to review their pathway 1 data, create reshuffling groups, ensure pathway 2 was completed and ready to use, and take time to look for other resources, documents, activities to support their teaching.

Day/Time Block   Day 3/Organization Committee

Middle of Pathway 2   (November 26th)

Activities & Related Goals   The teachers participating in our PLC this year were familiar with the process for the most part, however we had many teachers have a change in their teaching assignment and levels. This created a learning curve for those teachers now working in a new grade level for math. It was brought to the attention of the Organization Committee that there were still uncompleted toolboxes, and confusion

about release days. We took our time to address what needed to be in each toolbox for each cycle, and we completed the missing tools and materials that were missing.

We followed up with our administration to plan out the release days, what they would be used for, and how to best use our time during these meetings. During these discussions, it was clear the Organization Committee did not need 3 separate days to meet, thus we changed one of our meeting days to working with our school boards math consultant to strengthen our weaker areas notable in our comparative data.

Each member also brought questions raised by their cycle teams and discussed solutions that would be beneficial and positive for everyone. All cycle teams were doing well and we only had a few questions to discuss, of those questions we found solutions right away. For a few other questions, it was determined these were more suggestions of how to better our PLC process for next year, and we decided it would be better discussed at the end of our pathways.

We also used our data to support our RTI and resource support for our cycle 1 students. As a team, we looked at who would benefit most of RTI and resource and composed lists based on the data. The lists were shared with staff members and our administrator for complete collaboration and communication.

We finished our meeting by ensuring all cycle teams were progressing well, and ready for the next pathways.

Day 4, 5 and 6

Due to Covid-19 and the closing of schools, cycle teams and the Organization Committee were not able to take all their planned days. Cycle teams were going to be taking a total of 3 days each to focus on PLC as a whole team, another day was to be used by cycle teams to meet with our math consultant for further guidance and support, and the last 2 days were left if teams needed an extra day, and to possibly get a head start on planning for next year. The Organization Committee was to be released 2 times as a team, be released with our cycle teams for 3 team meetings, and be released as

well to meet with our math consultant. Depending on the days chosen by cycle teams to be released, some cycle teams were released more than others.

The cycle teams plans were to review each pathway after completion, enter data and analyze the pathway growth overall, as well as between years. Teams were responsible for ensuring all assessments were ready for use in the beginning of the new school. Teams were also going to be tasked with discussing the overall pathway completion, team collaboration, extra time used this year, and to address any unanswered questions or concerns. This would help the Organization Committee along with the school team discuss the best approach to take, moving forward to continue the project next year without a new grant.

The Organization Committee was going to meet to write the final report, address any unanswered questions or concerns posed by the cycle teams, and find positive solutions that work for all teams. The team was also going to ensure all cycles were able to complete their data analysis and preparation for next year.

Project Outcomes and Assessment
At the end of this year, the staff and students successfully completed two of three pathways, with pathway three partially completed due to the closing of schools from Covid-19. The Organization Committee supported the teachers throughout the process, and relinquished more responsibilities to cycle teams to help with collaborative and communicative processes by all members. Now that we have two years following our baseline group, we will be able to continue monitoring progress and success for the next years to follow. We will share our student success and areas to work on with the whole school team to help prepare for the following year.

With new collaborative measures and communal teaching blocks set up within all cycles, it has become evident this form of scheduling benefited our students and our teachers. It left more room for collaboration, and communication for student planning. Teachers now have the ability to shuffle students amongst teachers and classes with specific focuses on essential knowledges' at their level of learning.

With all of this, and moving forward with the same process for next year, it will be important the cycle teams all continue to work together. As we will not have our grant release time, it has been made clear our presence time will be set aside for time to work on our PLC within our cycle teams, and our administrator is aware that teams will need time to work together to ensure the open communication and collaboration of the PLC.

Reinvestment

Coming into our third year of the PLC process, and beginning teaching using this method for our second year it was very apparent the more resources, tools, and materials created only helped to solidify our teaching, and were suitable for all teaching styles.

We created our teacher toolboxes with materials and resources created in direct link for our essential knowledges'. This created ease and positivity amongst teachers, especially for those who changed levels knowing they did not have to start from scratch. Throughout our school year, we would discuss the results, and PLC process so far during our staff meetings with the whole school team. As well, as the end of the third, and final pathway, we communicate with the whole staff our results, show and discuss the data, and talk about overall changes/suggestions of how to move forward for the following year. We continue to involve our whole staff ih these discussions to maintain the mindset of "OUR" students, not "MY" students.

We also communicated with our math consultant to extend our understanding and learning beyond the walls of just our school. Our hope from this collaboration is gaining

new tools and resources we could use, as well as sharing our already made tools with our consultant to share with other schools. We have our journaling notes that we will be able to share with other schools teams and communities, as well as an online folder of tools through google drive that we can make accessible for other schools use. Moreover, our school team would be willing to create a mini-workshop to explain the process of an PLC (with a math content focus), and provide a general template for how we became successful with our own PLC.

Now that we have completed three years, the process and assessments, data collection has become a "fixed" process, while the materials and resources will always continue to grow. It is important that all schools participating in a PLC process begin to have a platform to share, and collaborate tools and materials with each other. These are ALL of OUR students, not just one school.