



Goal Setting
Overall Goal: Through the plotting of students along the Continuum of Numeracy Development and use of consistent Number Talks (3 – 5 days a week); students will advance at least one strategy along the continuum and 25% of those students will further advance through to the next phase of the continuum.

Needs Assessment / Where Are We Now?

Data from the 2017-2018 EQAO cohort (Westminster Public School)

Participating students in **Grade 3**:

- 67% achieved at or above provincial standard in reading.
- 61% achieved at or above provincial standard in writing.
- **39% achieved at or above provincial standard in mathematics.**

Participating students in **Grade 6**:

- 86% achieved at or above provincial standard in reading
- 85% achieved at or above provincial standard in writing.
- **30% achieved at or above provincial standard in mathematics.**

EQAO Student Questionnaire Results - 2017-2018

61% of our grade 3 students like math most of the time and 57% believe they are good at math.
53% of our grade 6 students like math most of the time and 50 % believe they are good at math.

PLAN	ACT	ASSESS	REFLECT
<p style="text-align: center;">PLAN: Needs Assessment Where are we now?</p> <p><i>Success Criteria:</i></p> <ul style="list-style-type: none"> • I apply the needs assessment in determining my IF/THEN statement. • My plan includes targeted assessment/instructional move(s) that intend(s) to address my challenge of practice. • My plan includes a mechanism to determine instructional/assessment next moves to improve student learning. • My plan identifies my intended student learning as a result of the educator instructional move(s). • My plan includes tracking of what students know, are able to do and communicate. • My plan includes steps for documenting the educator instructional/assessment next moves. • I can align the learning experiences with the assess/reflect component of the SIPsa. • I can align the learning experiences with the intended monitoring plan of the the SIPsa. • I can align resources with the SIPsa. • I can co-construct success criteria for the plan. • I include flexible timelines in the plan. • I communicate the plan and success criteria to all stakeholders. 	<p style="text-align: center;">ACT: Evidenced-Based Strategies/Action What are we going to do?</p> <p><i>Success Criteria:</i></p> <ul style="list-style-type: none"> • I can determine all the steps in implementing my plan. • I have a monitoring plan to track student achievement through triangulation of data • I know the steps I am responsible for in implementing the plan. • I establish clear responsibilities for all stakeholders. • I celebrate successes in carrying out the plan. 	<p style="text-align: center;">ASSESS: Monitor/Gather Data How are we doing? What evidence do you have?</p> <p><i>Success Criteria:</i></p> <ul style="list-style-type: none"> • I can gather documentation aligned to the theory of action including both educator and student learning. • I can gather documentation from a variety of sources and triangulate the data using observations, conversations and products. • I can use a consistent assessment tool for the exploratory task and the assessment of learning task (pre and post). • I can use different tasks for the exploratory task and the assessment of learning task which align with the learning goal(s) and success criteria. • I can use success criteria to assess student exploratory task and the assessment of learning task. • I can examine student learning and reflect on my educators' teaching practices to intentionally plan our next educator move(s) to increase student achievement, learning and autonomy. • I can sort and summarize documentation and organize it in a meaningful way. • I can align documentation against the success criteria in order to analyze, interpret and justify the documentation as evidence of learning. • I can use technology to help me organize my documentation. • I can use parent friendly language and avoid the use of acronyms. • I can use both qualitative and quantitative data as needed. 	<p style="text-align: center;">REFLECT: Analyze/Reflect How did we do? Where to next?</p> <p><i>Success Criteria:</i></p> <ul style="list-style-type: none"> • I can determine trends and patterns in both educator and student learning. • I can analyze the documentation to determine what we learned. • I can identify gaps in learning for both students and educators. • I can generalize the insights gained by looking at focus students to a whole class/whole school profile. • I can align reflections with the If and Then statements. • I can use a variety of sources to support the analysis of the documentation (e.g. reflections from both educators and students). • I can identify intentional moves for both educators and students. • I can support educators identifying a personal and team next step.



1st CYCLE OF INQUIRY

Theory of Action: Due October 12, 2018

If we create engaging learning experiences through a focus on purposeful planning and improve assessment and feedback practices through a focus on identifying and using learning goals and success criteria then student engagement and achievement will improve as measured by monitoring our focus students.

Success criteria for engaging learning experiences:

- I can see and hear authentic learning experiences
- I can see and hear assessment and feedback practices
- I can see and hear student-centered learning
- I can see and hear students using resources with intention
- I can see and hear educators as responsive facilitators
- I can see and hear collaboration
- I can see and hear purposeful planning
- I can see and hear discourse along with independent think time
- I can see and hear wellness

‘Look Fors’

Success Criteria for monitoring learning and setting goals

DATA:

Monitoring the IF:

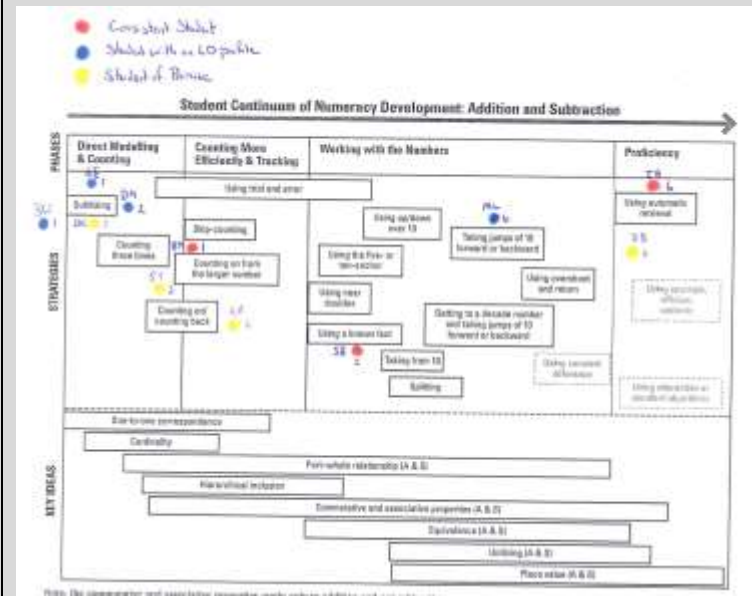
Based on the **co-constructed success criteria** for educator learning. (e.g. criteria for providing effective descriptive feedback)

Monitoring the THEN:

Based on the **co-constructed success criteria** for the pre, mid and post assessments of student learning (e.g. success criteria for number fluency)

	Direct Modelling and Counting	Counting more efficiently and tracking	Working with numbers	Proficiency
PRE				
POST				

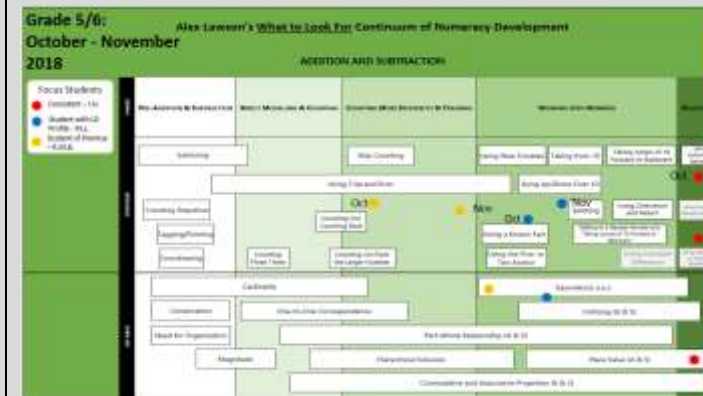
PRE: QUANTITATIVE EVIDENCE – DUE: October 12, 2018



Plotting of focus students will occur with our first Learning Team meeting as we explore and assess the diagnostic pre-assessments through moderated marking and determine our students place on the continuum.

MID: QUANTITATIVE EVIDENCE – DUE: November 16, 2018

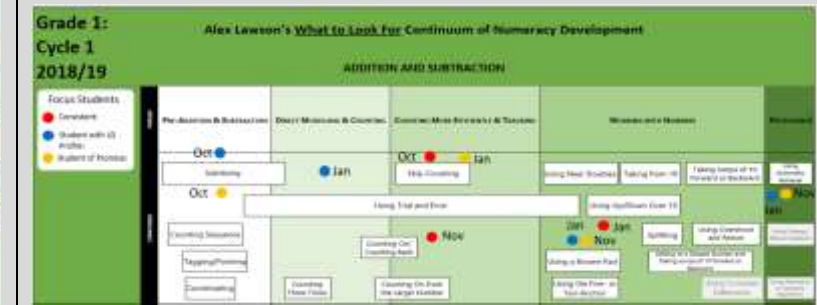
Below you will find a comparison of our three Focus Students in each individual class (Grades 5/6, 3/4, 1/2 and 1/Kinder). Each class is represented by an individual document that indicates where the student was landing on the continuum in late September/early October and where they were assessed as being in early November. We also indicated where the Focus Students are generally landing along the Key Ideas of the continuum.



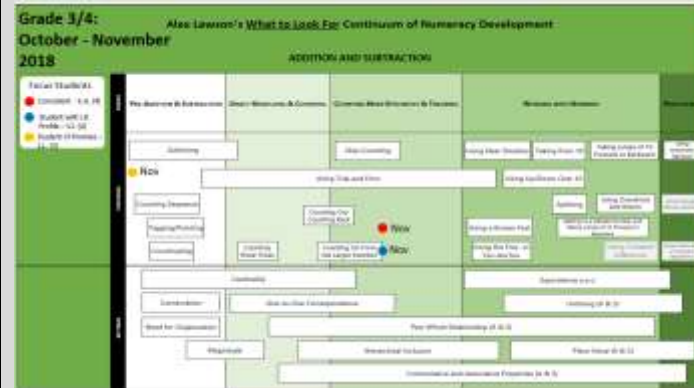
POST: QUANTITATIVE EVIDENCE – DUE: February 8, 2019

Below you will find a comparison of our three Focus Students in each of the individual classes (Grades 1,1/2, 3/4 and 5/6). Each class is represented by an individual document that indicates where the student was landing on the continuum in late September/early October, then November and finally January. Some students have multiple representations on the chart due to landing along several components of the continuum simultaneously.

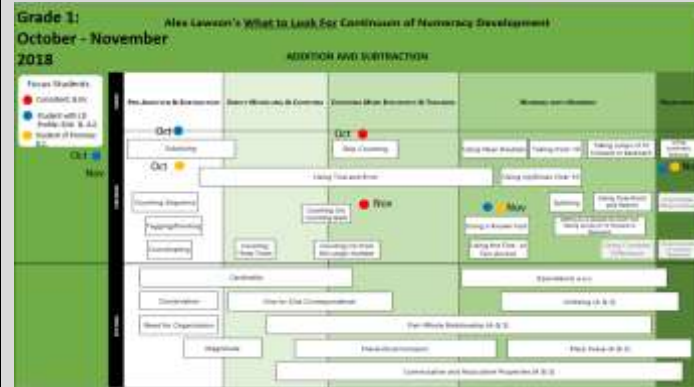
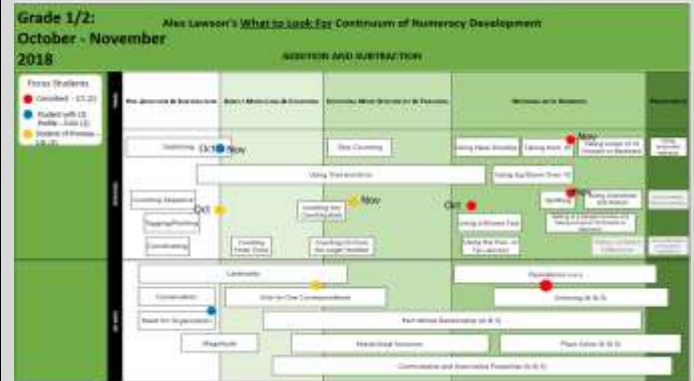
Grade 1:



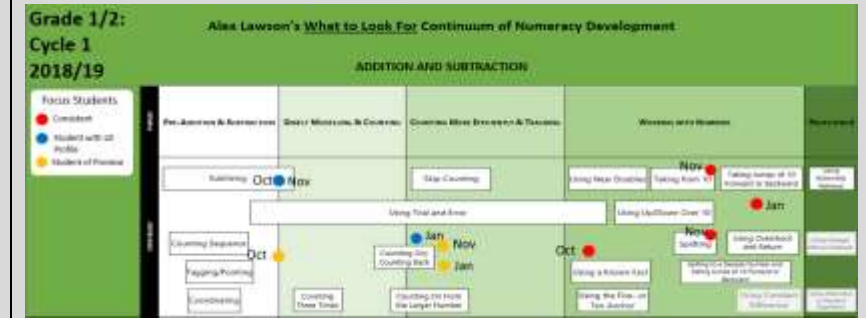
	Grade 1/2	November	December	February			
Join	Result Unknown	73	83	73	83	73	83
	Change Unknown	60	61	60	61	73	83
	Start Unknown	53	67	53	67	53	83
Separate	Result Unknown	59	92				
	Change Unknown	44	92	50		69	
	Start Unknown		67				77



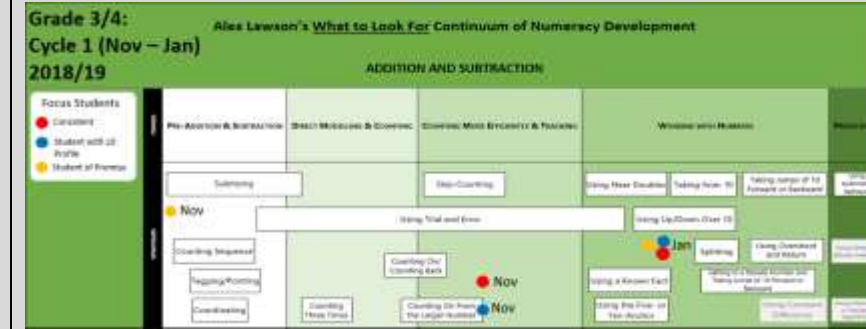
*Our Grade 3/4 data doesn't feed into this as the teacher was away for medical reasons



Grade 1/2:



Grade 3/4:



Grade 5/6:



QUALITATIVE ANECDOTES – DUE: October 12, 2018
Last year the Learning Team was left with the following wonderings:

- wondering if developmentally they just aren't there yet... research is showing that students are not transferring yet – where will they land in the fall by comparison
- wondering if the environment influences their responses as well – 1:1 vs. class
- Wondering if students revert to less efficient strategies on the continuum when we introduce a new concept
- Maybe we need to look at the type of question we are asking and the strategy they use?

QUALITATIVE ANECDOTES – DUE: November 16, 2018

In the Grade 5/6 class: Regular daily Number Talks are taking place – purposefully planned based on current exploration and study – classroom norms and co-created Success Criteria, built through community building exercises and posted Math Talk expectations – Guided Math groups are up and running

In the Grade 3/4 class: Regular daily center work and Number Talks will be beginning (*teacher recently returned from medical leave*) - purposefully planned based on current exploration and study

QUALITATIVE ANECDOTES – DUE: February 8, 2019

All classrooms are participating in frequent Number Talks – purposefully planned based on current exploration and study – classroom norms and co-created Success Criteria, built through community building exercises and posted Math Talk expectations – Guided Math groups are up and running in conjunction with mentorship opportunities built around the use of strategically chosen math games. These games are based upon the curriculum being studied and the identified gaps/misconceptions identified through classroom work, diagnostics and Number Talks.

In examining the plotting of students along the continuum (please see screen shots above):

- One educator spiraled the curriculum in math stations during the later half of the cycle and found that students ability to solve various problems during EQAO increased
- Educators connected their lessened anxiety around math to the students increased confidence in math
- Common math language has helped student confidence as well (*this will be emphasized and continued*)
- teachers would all like to remain part of the math team and track how their student do next year. Did they retain the strategies and tools that were used this year? This may be one starting place they felt?
- They felt we could use the same questions captured in our documentation in OneNote and compare it to their answers next year in September – as one source of data
- As a team, teachers would like to examine many sources of data to see where are gaps are – EQAO? Report Card data.
- The Numeracy Learning Team this year retains three participants from last year with the addition of one new teacher and a new administrator

In the Grade 1/2 class: Regular daily center work is taking place along with Number Talks around time/money/calendar – purposefully planned based on current exploration and study - – Daily word problems are being explored and supported using co-created success criteria (*looking at the structure of problems, i.e. part-part-whole*) and working towards efficiency in choosing strategies

In the Grade 1 (and Kinder class): Regular daily center work taking place – purposefully planned based on current exploration and study – Wide scope of documentation is taking place along with several approaches to charting and tracking students (*to be shared and explored at our Learning Team meeting*) – Daily Number Talks are taking place with an emphasis on understanding Numbers and how they can be broken down and put together (*multiple representations*)

In examining the plotting of students along the continuum (please see screen shots):

- 8 out of 10 students moved along the continuum – some demonstrating multiple new strategies and progressing towards Proficiency
- We had 2 of our 4 Students with an LD Profile make no noticeable gains
- **Our Grade 3/4 data doesn't feed into this as the teacher was away for medical reasons – we have plotted her present data and will build from there*

At our Meeting:

- We reviewed the previous SIPSAW and how it stands in its present/posted form, we made some additions and changes to reflect our Learning Team meeting
- We reviewed some video of student work and discussed where we thought the students were landing along the continuum and what logical next steps might be to move the students forward or in a couple of cases more accurately define where the students are at in their understanding
- We have decided upon each teacher coming up with a curriculum specific question for our diagnostic. This question will be grade specific (or modification specific). The question will be given three times (once per month). The question will be presented and students will be told to answer as efficiently as possible – *if they can show more than one way they are free to do so*. The problem will

- Our **Consistent Focus Students** either moved upward in efficiency or stayed where they began in the proficient phases (this students with Automatic retrieval

- Our **Focus Students with an LD Profile** all showed gains or a diversification of strategy use – moving forward through a phase

- Our **Students of Promise** also all showed movement either significant or movement through a variety of strategies

In our work since the last Meeting in November:

- We reviewed the previous SIPSAW and how it stands in its present/posted form, we made some additions and changes to reflect our Learning Team meeting
- We reviewed some student work and discussed where we thought the students were landing along the continuum and what logical next steps might be to move the students forward or in a couple of cases more accurately define where the students are at in their understanding
- As a team we attended the Board developed FMS Days
- Each teacher came up with a curriculum specific question for their diagnostics. These questions were grade specific (or modification specific). The questions were given two to three times. The question was presented, and students were told to answer as efficiently as possible – *if they can show more than one way they are free to do so*. The problems have never been directly addressed with students (taken up) – so that we have been able to ask it again and see if they change how they approach it, or if they move forward or backward (or no movement) along the continuum. We used this diagnostic method for plotting on the continuum, as well as to feed into which games to utilize and when.

- We used the games from Alex Lawson's ***What to look for: Understanding and developing student thinking in early numeracy book***. Team members also brought in games and shared them with the group. The older class of 5/6 were taught the games and then the other classes indicated which games they would like taught to their classrooms. These opportunities are running once a week to build independent capacity in playing the games, as well as practicing the skills. This provides a great mentorship opportunity for our older students and leaves all students with a tool box of games and strategies to practice – the coaching aspect allows for more independent and purposeful practice/play; which in turn opens up and supports the teacher's ability to target guided groups; while the remainder of students explore and practice strategies, both collaboratively and independently.

		<p>never be directly addressed with students (taken up) – so that we may ask it again and again and see if they change how they approach it, or if they move forward or backward (or no movement) along the continuum. We will examine the Focus Students work on these questions at the next Learning Team meeting and plot accordingly.</p> <p>- At our meeting we also examined the list of games from Alex Lawson’s <i>What to look for: Understanding and developing student thinking in early numeracy</i> – we will be working towards integrating these games with the games that are presently being used in the Guided Math groups that we are developing – we decided on which games to create kits for and the resources that are required. We also set up a schedule for teaching the games to the participating classes. The Grade 5/6’s will practice teaching pre-selected games to one another and will then spend 40 - minute periods working with small groups during Guided Math time to teach the other classes how to play the games (<i>so that they can be played independently by small group during regular Guided Math practice</i>). We will be trying this on a weekly basis to build up the variety of Math Games that can be accessed during these times.</p>	
<p>PLAN – DUE: October 12, 2018 Through purposeful planning using diagnostic pre-assessments; educators will identify learning goals based on plotting individuals on the Lawson continuum (while keeping in mind the overall expectations in the curriculum). Educators will work with students to co-create success criteria to help them better understand how to participate effectively in Number Talks.</p>	<p>ACT – DUE: October 12, 2018</p> <ul style="list-style-type: none"> - Educators will continue to explore the Alex Lawson’s <i>What to look for: Understanding and developing student thinking in early numeracy</i> to ensure we understand what we are looking for. - Learning Team participants will be conducting diagnostic pre-assessments to bring to the Learning Team table, so that we may conduct moderated marking and determine our students place on the continuum. - We will endeavor to embed consistent and purposeful Number Talks into our daily classroom practice to continue to monitor our students progress. - We will explore the variety of Number Talks available and search for which may be purposefully used to elicit, explore and teach the desired skills and strategies. - We will determine and post co-created success criteria around Number Talks to create norms that promote inclusion, participation, engagement and use of consistent language through classroom practice and the demonstration of explicitly modelled situations. 	<p>ASSESS – DUE: November 16, 2018 & February 8, 2019</p> <p>Continuing Next Steps and Action Items:</p> <ul style="list-style-type: none"> - Educators will continue to explore the Alex Lawson’s <i>What to Look For: Understanding and developing student thinking in early numeracy</i> to ensure we understand what we are looking for and how to identify the strategy(ies) being used – we will be reviewing videotaping of focus student work to pull apart what is happening, what teacher moves are being used and can be used to draw out student thinking - We will continue to endeavor to embed consistent and purposeful Number Talks into our daily classroom practice to continue to monitor our students progress - We will explore the variety of Number Talks available and search for which may be purposefully used to elicit, explore and teach the desired skills and strategies 	<p>REFLECT – DUE: November 16, 2018 & February 8, 2019</p> <p><i>Overall, we saw gains for all of our Focus Students. Some of these gains were evident through the movement through phases of the continuum and some gains were seen through the utilization and understanding of a new multitude of strategies.</i></p> <p><i>Anecdotally, all team members felt that overall confidence, participation and engagement in math has increased for their entire math community of learners.</i></p> <p>Two questions were posed to the team regarding our professional learning within the 1st cycle; as well as exploring where we would like to go next as learner (in support of our students) during the 2nd cycle:</p> <p>What do you feel you have learned since the beginning of the school year – what is new to you and what have you gained confidence in (knowledge, understanding, practice – how do you know)?</p> <p><i>- I feel like I’ve learned a great about Number Talks this year. I read two books focusing on Number Talks and was able to gain ideas about how to effectively conduct a Number Talk. This year I added the hand gestures (previously I didn’t know about the gestures) to</i></p>

		<ul style="list-style-type: none"> - Those who have not yet done so, will determine and post co-created success criteria around Number Talks to create norms that promote inclusion, participation, engagement and use of consistent language through classroom practice and the demonstration of explicitly modelled situations - We hope to examine a variety of Number Talks to match them to specific strategies along the continuum <i>(along the same lines as with the games currently being used in guided/independent practice)</i> – <i>This is something we will look at more closely during our next meeting</i> - Educators will be continuing to conduct diagnostic pre-assessments and consistent (repeatable) check in assessment tasks to bring to the Learning Team table, so that we may conduct moderated marking and determine our students place on the continuum (paper tasks, anecdotal notes from Number Talks and video) - Educators will continue to film students working through the tasks – so that we may assess and evaluate the thinking occurring and try to determine the gaps and next steps to take to address these gaps in relation to moving strategy use forward towards greater efficiency (and confidence) - Document our Focus students as they work through a variety of problems and tasks – as well, track the specific teach moves and strategies employed in the attempt to move them along the continuum - We will have games set up and ready to go (buy resources and create packages) for all participating classes 	<p><i>use in Number Talks. I found that the added hand gestures added an element that I didn't expect. It allowed students to feel more confident and comfortable and I noticed participation from students I hadn't in the past. Overall, I have felt that adding purposefully chosen Number Talks has helped my students develop a more in-depth knowledge.</i></p> <p><i>- The Alex Lawson book and the continuum were new to me this year and being able to look at it as a team has been insightful. Additionally, plotting students along it and the use of games in a strategic and purposeful way (not everyone playing the same games – specific games used to target specific skills/gaps) has been very impactful on me. Also, the use of notice and name and being purposeful in modelling this has added clarity to my practice.</i></p> <p><i>- I feel like doing the Math Days again has furthered my confidence in my ability to not only teach math, but also to guide student learning. New to me this year (that I have used and will continue to use) are Splats and Which One Doesn't Belong as Number Talks. The biggest take away in my overall teaching is to celebrate mistakes as learning opportunities.</i></p> <p>In moving forward, what are you interested in learning about and/or delving deeper into?</p> <p><i>- I'm interested in learning more different ways to use the manipulatives we have available at the school. I'd also love to develop more games that can be used both in kindergarten and grade 1 to support students learning strategies.</i></p> <p><i>- I'm looking to do more moderated marking and having discussions about what is my next 'instructional teacher move' to help best support individual students and the group as a whole – trying to be consistent with differentiation with problem solving is also a goal.</i></p> <p><i>- I really enjoyed the beginning of the multiplication sessions at the last FMS Day. Guidance about where to start was something I really needed. More work with manipulatives that I am unfamiliar with would be a wonderful next step!</i></p>
--	--	--	--

2nd CYCLE OF INQUIRY

Theory of Action: Due October 12, 2018

If we create engaging learning experiences through a focus on purposeful planning and improve assessment and feedback practices through a focus on monitoring learning and setting goals then student engagement and achievement will improve as measured by monitoring our focus students.

Success criteria for engaging learning experiences:

- I can see and hear authentic learning experiences
- I can see and hear assessment and feedback practices
- I can see and hear student-centered learning
- I can see and hear students using resources with intention
- I can see and hear educators as responsive facilitators
- I can see and hear Collaboration
- I can see and hear purposeful planning
- I can see and hear discourse along with independent think time
- I can see and hear wellness

‘Look Fors’

Success Criteria for

If we create engaging learning experiences through a focus on purposeful planning and improve assessment and feedback practices through a focus on monitoring learning and setting goals then student engagement and achievement will improve as measured by monitoring our focus students.

DATA:
Monitoring the IF:
 Based on the **co-constructed success criteria** for educator learning. (e.g. criteria for providing effective descriptive feedback)

Monitoring the THEN:
 Based on the **co-constructed success criteria** for the pre, mid and post assessments of student learning (e.g. success criteria for number fluency)

PRE: QUANTITATIVE EVIDENCE – DUE: February 15, 2019

Plotting of Focus Students on the Lawson Continuums for Subtraction and Multiplication (some changing from Cycle one to Cycle two) will occur with our March Learning Team meeting, as we explore and assess all the diagnostic pre-assessments through moderated marking and determine our students place on the continuum – with the Grades 1s and 2s moving into Subtraction operational strategies and the Grade 3s through 6s working on Multiplication operational strategies.

MID: QUANTITATIVE EVIDENCE – DUE: April 12, 2019

Below you will find a comparison of our three Focus Students in each individual class (Grades Kinder/1, 1/2, 3/4, and 5/6)

Each class is represented by an individual document that indicates where the student was landing on the continuum in February and March

Several Focus Students changed from 1st to 2nd cycle due to changing needs and attendance

Please see additional notes in the assess section that indicates not just where students are landing on the continuum, but also whether they were accurate in their answers (correct)

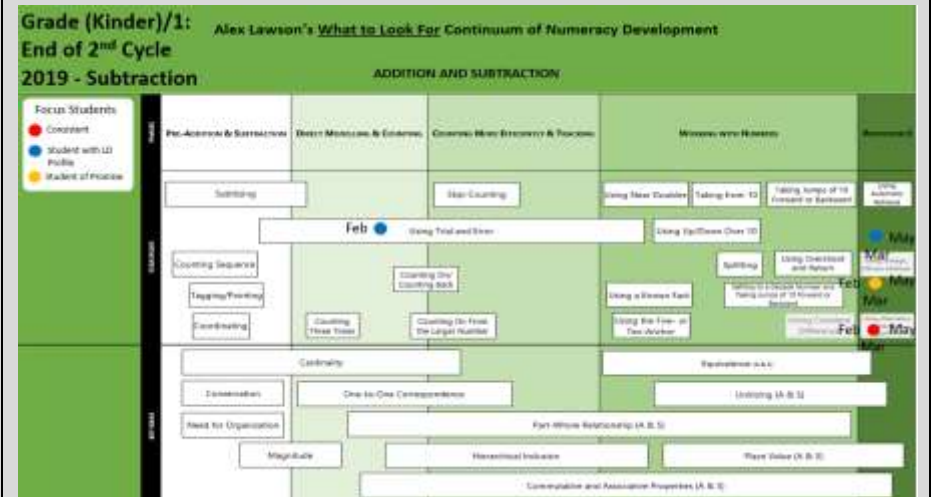
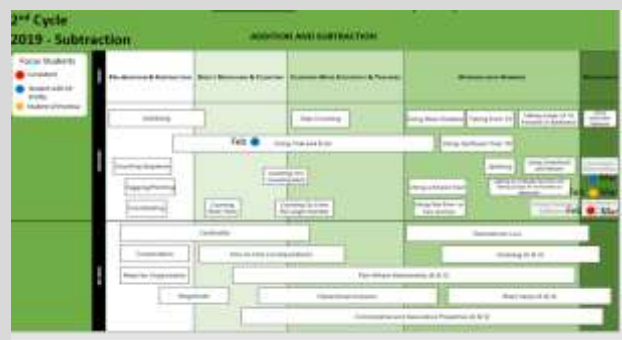
POST: QUANTITATIVE EVIDENCE – DUE: May 31, 2019

Below you will find the plotting of our three Focus Students in each individual class (Grades Kinder/1, 1/2, 3/4, and 5/6) as they have moved throughout the year with three distinct dated plot points.

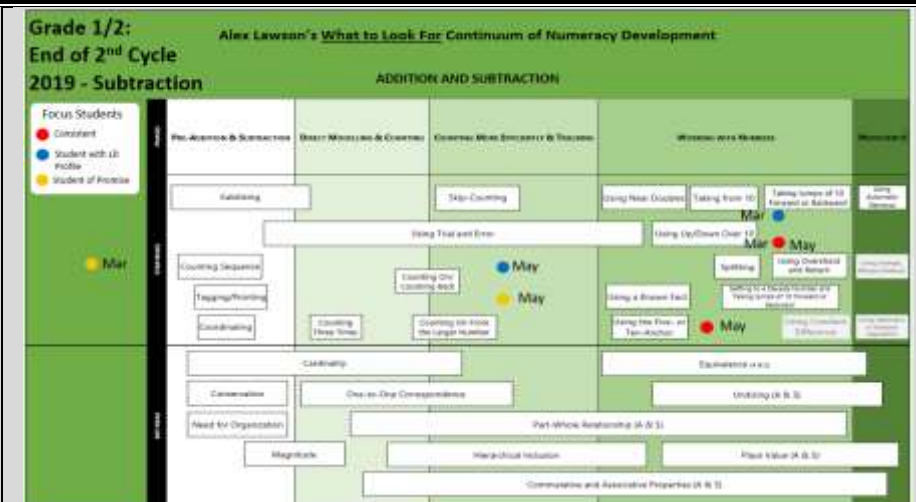
Each class is represented by an individual document that indicates where the student was landing on the continuum in February and March and finally May/June.

Please see additional notes in the **assess** section that indicates not just where students are landing on the curriculum, but also whether they were accurate in their answers (correct).

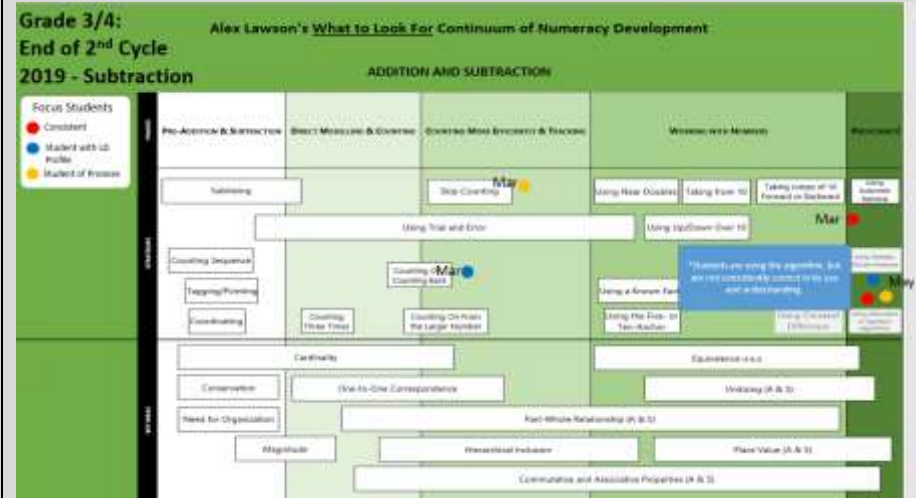
	Grade 1/2	November	December	February
Join	Result Unknown	73	83	73
	Change Unknown	60	61	60
	Start Unknown	53	67	53
Separate	Result Unknown	59	92	83
	Change Unknown	44	92	69
	Start Unknown		67	77



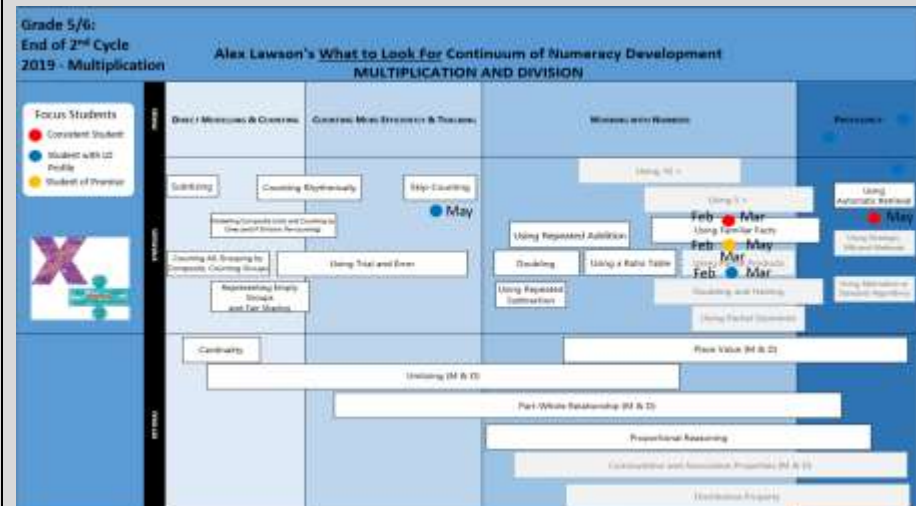
Grade 1/2:



Grade 3/4:



Grade 5/6:



QUALITATIVE ANECDOTES – DUE: February 15, 2019

- Diagnostics have begun with the majority of Focus Students having misconceptions or using inefficient strategies for the operational Subtraction and Multiplication work being explored
- Teachers feel that the work done with Number Talks and Noticing and Naming strategies (through the first Cycle) will contribute to faster, more efficient and thorough use of multiple strategies when attempting to explore operational problems
- Students have difficulty transferring operational skills from a strict number sentence/operational question to a more complex word problem when they need to determine the operation to be used

QUALITATIVE ANECDOTES – DUE: April 12, 2019

In the (FI) Grade 1 (and Kinder class): Regular daily center work taking place – purposefully planned based on current exploration and study. Wide scope of documentation is taking place along with several approaches to charting and tracking students. Daily Number Talks are taking place with an emphasis on understanding Numbers and how they can be broken down and put together (*multiple representations*) – Dynamic and differentiated word problems are being explored (*looking at the structure of problems*)

In the (Regular) Grade 1/2 class: Regular daily center work is taking place along with Number Talks are occurring – purposefully planned based on current exploration and study - – Daily word problems are being explored and supported using co-created success criteria (*looking at the structure of problems, i.e. part-part-whole is being more deeply explored*) and working towards efficiency in choosing strategies

In the (Regular) Grade 3/4 class: Regular daily center work and Number Talks are happening - purposefully planned based on current exploration and study - Guided work is occurring during daily math centers

In the (Regular) Grade 5/6 class: Regular daily Number Talks are taking place – purposefully planned based on current exploration and study – classroom norms and co-created Success Criteria, built through community building exercises and posted Math Talk expectations – Guided Math groups are up and running

At our 2nd Cycle Meetings:

- We reviewed the previous SIPSA and how it stands in its present/posted form, we made some additions and changes to reflect feedback at the Learning Team meeting

- We discussed some changes to Focus Student choices due to classroom needs, shifting skill sets and absences

- We reviewed some student work and discussed where we thought the students were landing along the continuum and what logical next steps might be to move the students forward, or in a couple of cases more accurately define where the students are at in their understanding

- We planned for the joint PA day that we had with Vanier PS on April the 5th – this involved creating some guiding questions, selecting some games to share and

QUALITATIVE ANECDOTES – DUE: May 31, 2019

The work in all four classroom continues with regular daily center work taking place – purposefully planned based on current exploration and study. Wide scope of documentation is taking place along with several approaches to charting and tracking students. Daily Number Talks continue to take place with an emphasis on understanding numbers and how they can be broken down and put together (*multiple representations*). SK who will be entering grade 1 next year are doing weekly visits to Grade 1 classes to experience Number Talks and classroom procedure to help create a smooth transition into grade 1 classroom practices/routines and to determine reasonable starting points for the students coming up. Increased exploration of dynamic and differentiated word problems are being explored (with an emphasis on looking at the structure of problems and utilization of co-created success criteria). Guided practice continues due to the independence gained through the game systems established through peer mentorship – with an emphasis on games created from the Lawson materials. Additionally, the primary teachers have taken it upon themselves to extend the games to subitizing centers.

		contextualizing some anecdotal stories to share about our journey (to share our successes and questions)	
<p>PLAN – DUE: February 15, 2019</p> <p>Through continued purposeful planning (using diagnostic pre-assessments based on specific operational expectations in the curriculum); educators will identify learning goals based on plotting individuals on the Lawson continuum. Using this information, the team members will identify games and Number Talks to address gaps and move students toward more efficient strategy use. Learning Team members will also work with other educators and classrooms to co-create success criteria to help them better understand how to participate effectively in Number Talks.</p>	<p>ACT – DUE: February 15, 2019</p> <ul style="list-style-type: none"> All our focus students either moved through a series of strategies (including establishing an initial strategy along the Lawson Continuum) in Cycle 1 Teachers will administer a grade appropriate operational question (modified if focus students have a modified IEP) based on a specific operational curriculum expectation. This exact same question will be re-administered once or twice over the timeframe between meetings. The specific question will not be taken up or addressed individually or as a class As a learning team, we will moderate the student samples, looking to notice and name the strategy employed and identify gaps and generate ways to best address supporting the students (identify and teach targeted games through our guided math groups, individual conferencing, targeted Number Talks to whole group, small group or individuals, etc.) At this time, we will also discuss (anecdotally) – what has been done in class over the intervening weeks – either whole class, small group or individually to move the focus students understanding forward Admin will connect with several other classrooms to begin the spread of capacity. This will initially look like Admin modelling Number Talks and co-creating Success Criteria for accountable Math Talk. We will then move to a model that allows us to pull some of our Learning Team teachers to model Number Talks with these targeted classrooms Guided Math Groups will continue and expand – along with combing Learning Team classes for more teaching of targeted math games to address gaps and build independent skills 	<p>ASSESS – DUE: April 12, 2019 (please see below for May 31st, 2019)</p> <p>In the (FI) Grade 1 (and Kinder class): <i>2 of 3 Focus Students were able to correctly answer the question on the first attempt; with 3 of 3 answering correctly on the second attempt. In addition, the entire class moved from 50% during the initial attempt to 100% correctly answering the question during the second attempt</i></p> <p>In the (Regular) Grade 1/2 class: <i>None of the students were able to correctly answer the question (using a variety of strategies) – however, the question was given as a word problem and we discussed the importance of everyone conducting the diagnostics as straight numerical operational questions for consistency of tracking with the continuum. In further discussion, it was indicated that students used a variety of strategies linked to ‘friends of 10’ and 2 out of 3 could answer correctly</i></p> <p>In the (Regular) Grade 3/4 class: <i>2 of 3 students were able to answer correctly and stuck with their chosen strategies for both attempts</i></p> <p>In the (Regular) Grade 5/6 class: <i>3 of 3 students answered correctly on the first attempt using the area model or box method. Interestingly, during the second attempt 0 of 3 students answered the same question correctly. Two used the previous area model strategy – one making a simple addition error and the other revealing their lack of understanding regarding place value. The third student tried to use the algorithm and had a simple error. 80% of the entire class answered correctly on the initial attempt with only 40% being able to answer correctly on the second attempt</i></p> <p>ASSESS – DUE: May 31st, 2019</p> <p>In the (FI) Grade 1 (and Kinder class): Students made 3 attempts at several operational questions. Consistent: uses mental math strategies to decompose and recompose – will use pictures if asked, but does not need to use them to solve – solved correctly each time Student of Promise: student always uses pictures – the picture choices/representations always differ – with success criteria – the student will do all the work – but can solve using splitting and is able to do the math in their head - solved correctly each time LD: tried and number line, but used incorrectly, second attempt was using fingers and the algorithm with success</p>	<p>REFLECT – DUE: April 12, 2019 (please see below for May 31st, 2019)</p> <p>In examining the plotting of students along the continuum (please see screen shots above):</p> <p>We were very surprised with the results we saw. Many of our student were successful the first attempt – using a viable strategy and getting the correct answer. However, on the second attempt of the same question a couple of weeks later – many of these students were not able to get the correct answer. Many switched strategies to the algorithm or reattempted a previously successful strategy and got an incorrect answer</p> <p>We are very curious as to what happened between the first and second diagnostic in several of the classes. We talked about employing a debrief (oral) for these questions with the Focus Students, so that we don’t miss anything and see if redirection to a previous strategy might result in more consistent results</p> <p>Continuing Next Steps and Action Items:</p> <ul style="list-style-type: none"> - We are continuing with each teacher coming up with a curriculum specific question for our diagnostic. The questions are grade specific (or modification specific). The question will be given two or three times. The questions will be presented, and students will be told to answer as efficiently as possible – if they can show more than one way they are free to do so. In the 2nd cycle a couple of teachers moved away from this and asked questions in a word problem format and we talked about avoiding doing that, because in terms of the tracking – we don’t want to misrepresent operational understanding due to confusion around the language of the question. For our next meeting, we will look at both word problems and straight number questions (with an emphasis on the straight number questions for continuum tracking purposes) - We are continuing using games from Alex Lawson’s What to look for: Understanding and developing student thinking in early numeracy, as well as teacher generated and curated games. The games were discussed as we switched them up to look at Subtraction and then also some multiplication for the 5/6’s. Guided Math groups are running during the 40 - minute periods working with small groups of younger students. We have talked about pushing this out to some other Regular and FI classrooms and at our next meeting with discuss logistics with input from the other classes we wish to target <p>REFLECT – DUE: May 31st, 2019</p> <p>In looking toward next year – we have discussed what teams might look like. One idea involves running shorter meetings to involve twice as many teachers. Using this model, we could also look at running</p>

and the third attempt was using the *Rekenrek* with success – this student is also now showing success with word problems

By the third attempt - all students in the class were solving correctly – though some were not using particularly efficient strategies – all were able to use at least one strategy effectively

In the (Regular) Grade 1/2 class: Went back and based on previous questions – explicitly taught two strategies.

Consistent: correct – used pictures (to please the teacher – didn't need) – anchors of 10

Student of Promise: correct - used 100's chart – counted down by 1 – reversed numbers – but, went back and identified the mistake and corrected

L.D.: Started at large number – counted down with counters - sloppy and not consistent with 1 to 1 correspondence

*Classroom is now working on Subitizing centers – developed from the addition and subtraction games from the Lawson's Continuum

In the (Regular) Grade 3/4 class: None of the focus students were able to answer correctly and stuck with their chosen strategies for both attempts – all went to the algorithm – they are very 'hit and miss' with this strategy and often make simple errors – earlier success seems clouded by struggle when attempting larger number subtraction

*Students are using the algorithm but are not consistently correct in its use and understanding.

In the (Regular) Grade 5/6 class: Consistent: correct - array model

Student of Promise: tried two methods – were incorrect – partial products and array – only off by a few

L.D.: incorrect – skip counting

19 out of 23 students were able to correctly answer the question – most use array or algorithm (teacher is confident through conversations and observations that students understand the algorithm)

teams with slightly different focuses – such as, one team with all (or mostly) new participants working in a similar focus area as our work this past year. This would allow the more experienced team could partner up with this team for some in class modeling, as well as engage in the furthering of their own professional learning through a deeper dive in to effective practices around problem solving and word problems (utilizing the **5 Practices** text). We also discussed the idea of connecting with neighboring schools and teaming up.

We have found spreading the learning to be the most difficult aspect of our work. It has all come down to time. We have been able to do some work in this area through some modelling in other classes and through some work at Staff Meetings and PD days. At this point though, we feel integrating more actual people into Learning Teams might be the best way to spread our learning – even if this means a reduction in actual meeting time for each team.

Learning Team members reflections and feedback

What do you feel you have learned since the beginning of the school year – what is new to you and in what areas have you gained confidence in (knowledge, understanding, practice – how do you know)?

- I really saw the advantage of using success criteria. My students were able to successfully follow the steps in our success criteria to solve math word problems independently. This was evident when students successfully answered a word problem, but had more difficulty correctly answering the same question that was not embedded in a word problem. I also feel that my students have gained a great deal of self - confidence due to our regular number talks. They have a solid understanding of numbers and are able to take risks when attempting new/more challenging problems.

- I have learned the value of using math games to help students with their learning and practice of concepts/strategies. I have created 4 sets of math games centres that I have used to increase students curiosity and build math confidence. As well, I have seen the value of co-creating success criteria and using that criteria to have students self and peer assess.

- I have a much better understanding of the Lawson continuum and how to move students along it. I have a much better understanding of using games to help students improve number fluency and reinforce skills or address gaps in understanding. I have come to the conclusion that my long - range plans for math will be number sense and numeration and that I will just tie the other strands in where it

			<p>makes sense to. I am also moving my math to more centre based learning, where I do guided instruction with small groups (similar to language centres).</p> <p>- I have learned to slow down and really listen to each child as they explain their thinking. I've learned to pay attention to the strategies and tools the children "say" they used and what they actually used to get a correct answer. I've learned about so many new resources that I was not aware of and through them, have learned different teaching strategies.</p> <p>2. In moving forward, what are you interested in learning about and/or delving deeper into; individually or as a Learning Team – what could this look like?</p> <p>- I would like to have the opportunity to do some co-teaching with colleagues who share the same or similar grades to myself. I also would love the opportunity to continue to work with our Learning Team member who will be at Vanier next year. We both have Gr. 1/2 and it would be great to do some joint/similar tasks and to plan for some opportunities that would allow our students to share strategies and work together to solve problems/challenges and then share their learning with each other.</p> <p>- I would like to be able to share our learning with other primary teachers and have them see the value of using math games, guided groups and success criteria across our division.</p> <p>- I am interested in learning about how to integrate coding with 'bots' into my classroom and continuing with the classroom practices I have establish the past few years through Learning Team work.</p> <p>- As I move to a grade 1/2 class next year at Vanier, I would be excited about the opportunity to continue work with Westminster staff; maybe in a hub type scenario. Looking at the possibility of having our students work together on activities or do some co-planning with a variety of teachers.</p>
--	--	--	---

Engaging Learning Experiences Foci:

1. Creating meaning and integrating curriculum

Schools working in this area will be focused on how to create meaningful learning experiences for students that are relevant, important and challenging, while also seamlessly integrating and assessing the curriculum. They will work on how to incorporate real-world ideas and purposeful work, while using the curriculum as a tool to accomplish this work.

2. Integrating global competencies

Schools working in this area will be focused on ensuring that all students develop the knowledge, skills and characteristics to become personally successful, economically productive and actively engaged citizens. These competencies include:

- 1) Critical Thinking and Problem Solving
- 2) Creativity, Innovation and Entrepreneurship
- 3) Self-Directed Learning

- 4) Collaboration
- 5) Communication
- 6) Citizenship

3. Purposeful planning

Schools working in this area will use organizational concepts such as Backwards Design, Universal Design, Differentiated Instruction and Problem or Project-Based Learning to create purposeful learning experiences for students.

4. Building community partnerships

Schools working in this area will be focused on building and maintaining symbiotic partnerships with a variety of community stakeholders. These relationships are authentic and provide benefits for the students and stakeholders. In this work, students will benefit from authentic learning environments that provide them real-life learning opportunities.

5. Student voice and work

Schools working in this area will be focused on students as active participants in the classroom, where teachers build plans based on student interest and with students. In these classrooms, students are driving learning through their own inquiries and passions.

6. Publishing

Schools working in this area will find ways to engage students in purposeful work, and increase accountability and pride through sharing this work with the school, community, and wider world.

Assessment Loop Foci:

1. Identifying and using learning goals and success criteria

Schools working in this area will be focused on building educator efficacy in determining learning goals using big ideas and the curriculum and then noticing and naming the learning with students to co-construct success criteria.

2. Eliciting student thinking and learning through triangulation

Schools working in this area will be focused on building educator efficacy in gathering documentation from a variety of sources and triangulating the data using observations, conversations and products.

3. Generating descriptive feedback

Schools working in this area will be focused on building educator efficacy in examining student learning and reflecting on their teaching practices to intentionally plan next steps for students and educators to increase student achievement, learning and autonomy.

4. Engaging in peer and self-assessment

Schools working in this area will be focused on building educator efficacy in supporting students' engagement with the learning goal, success criteria and descriptive feedback to self-assess their and their peers' learning and act on the identified gaps.

5. Monitoring learning and setting goals

Schools working in this area will be focused on building educator efficacy in supporting students monitoring their learning to identify next steps and set personal goals for learning. In addition, educators will monitor their own and their students' learnings to identify and apply their intentional next best instructional moves.