

# The Thinking Symposium:

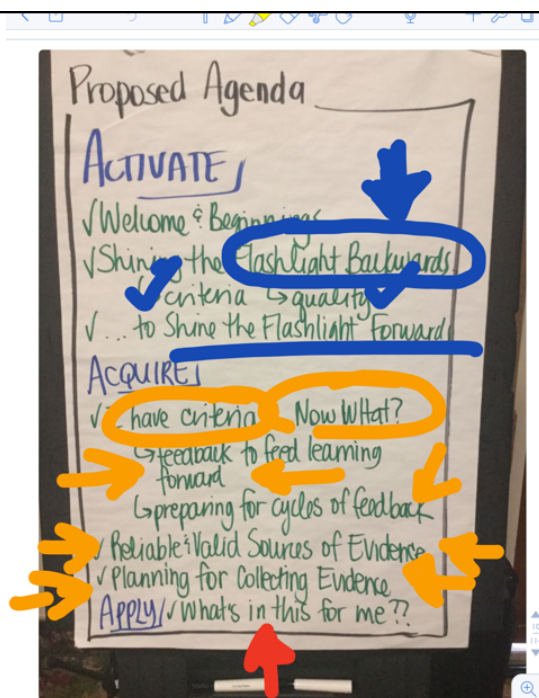
*Engaging Learners – Connecting Success  
Criteria to Feedback, Evidence and  
Evaluation*

with Sandra Herbst

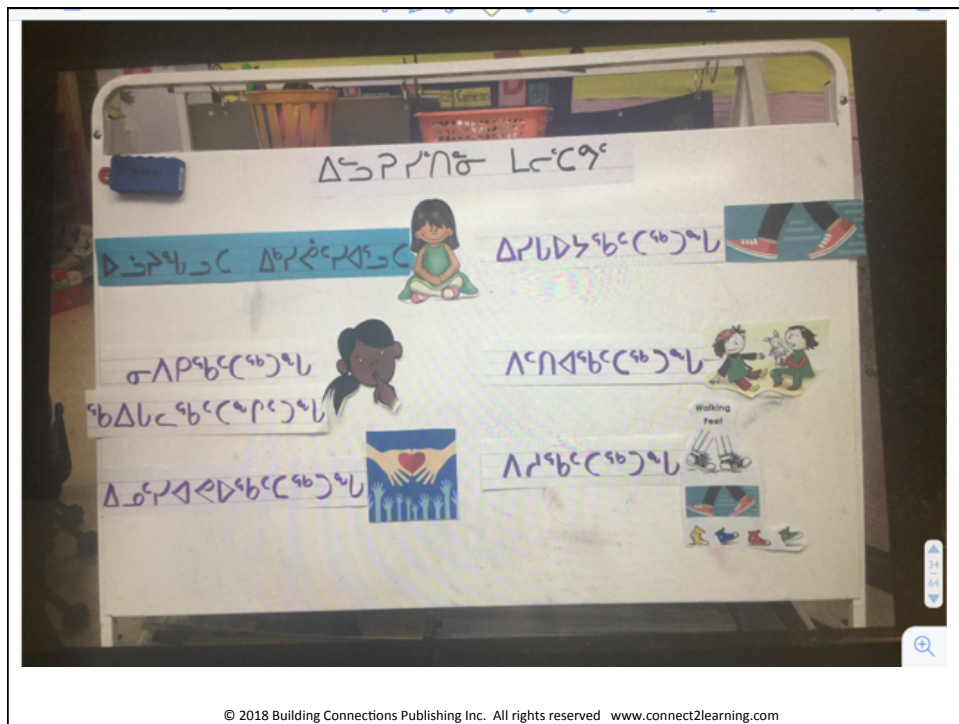
April 2018

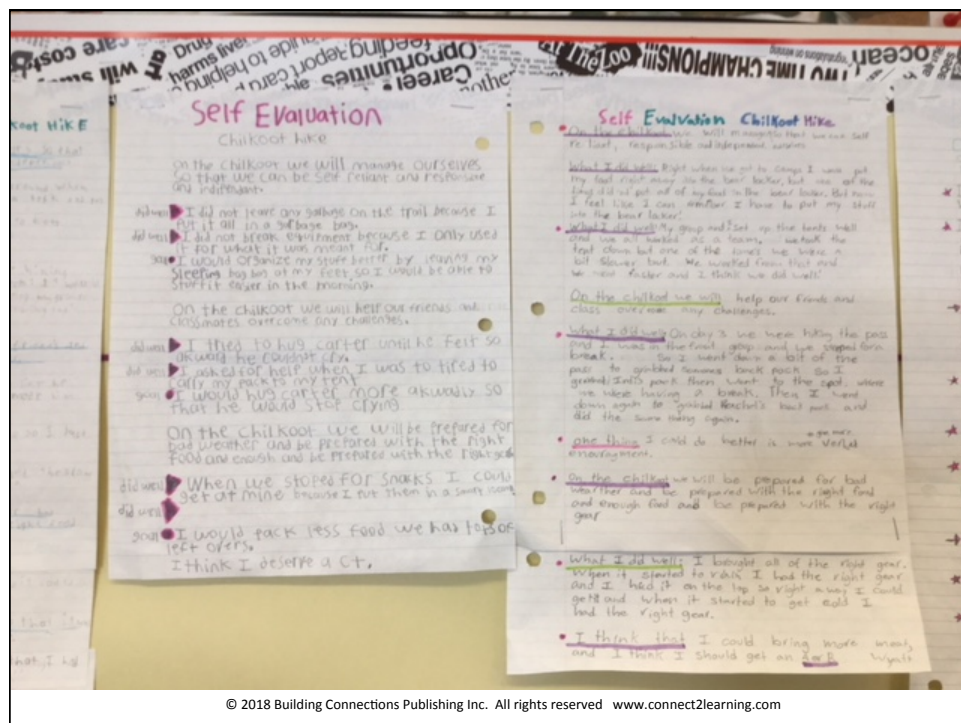
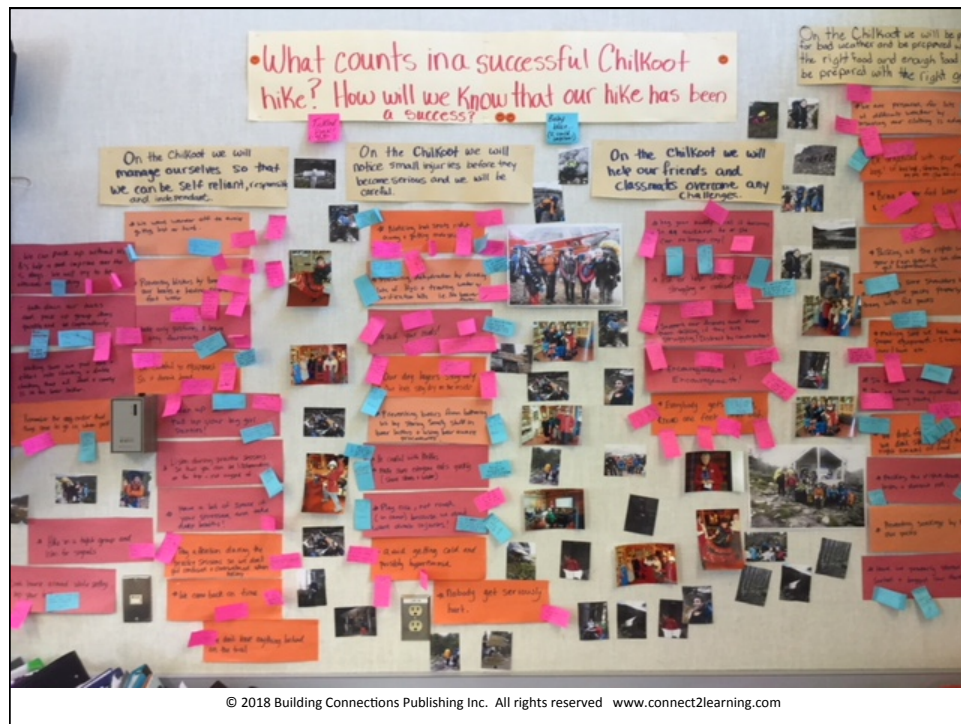


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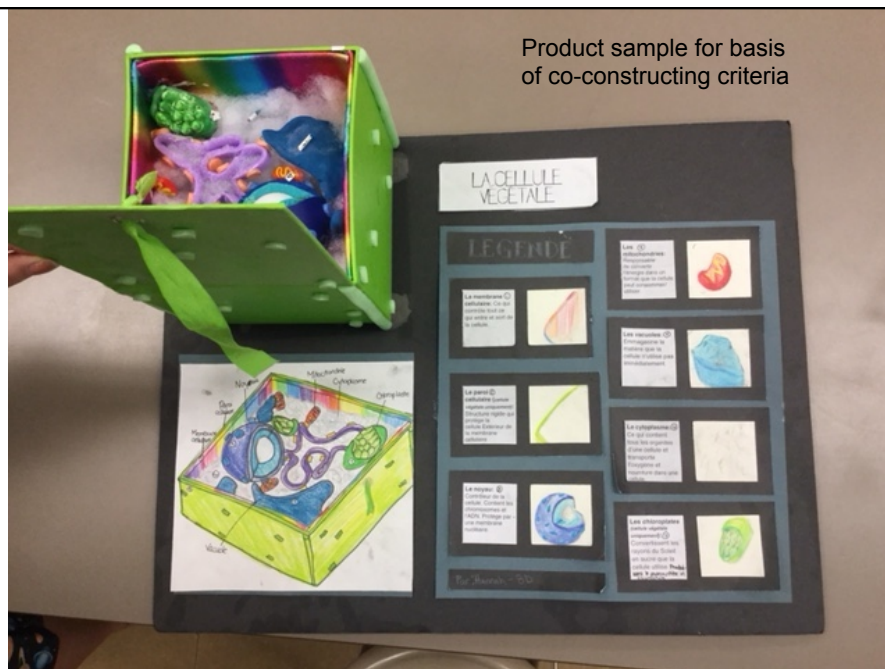
## Seven Actions of Assessment for Learning

### Students...

- Have a clear learning destination
- Use samples to understand quality and development
- Participate in the co-construction of criteria
- Are involved in feedback cycles to feed the learning forward, including self- and peer assessment
- Collect evidence to prove that they have learned
- Set goals for their next steps
- Communicate their learning to others, both formally and informally



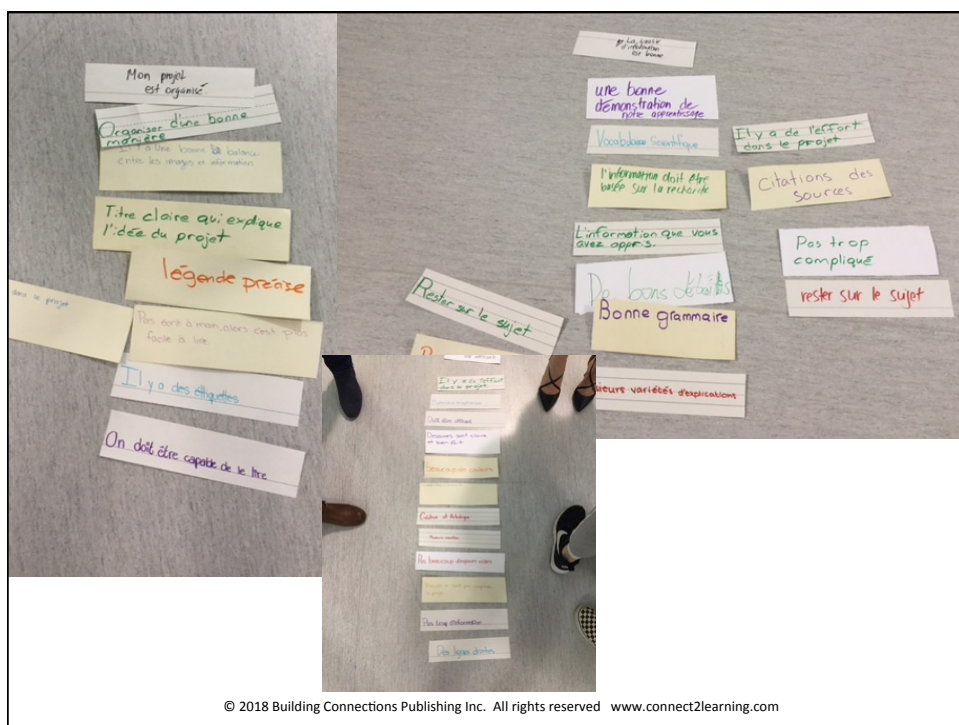
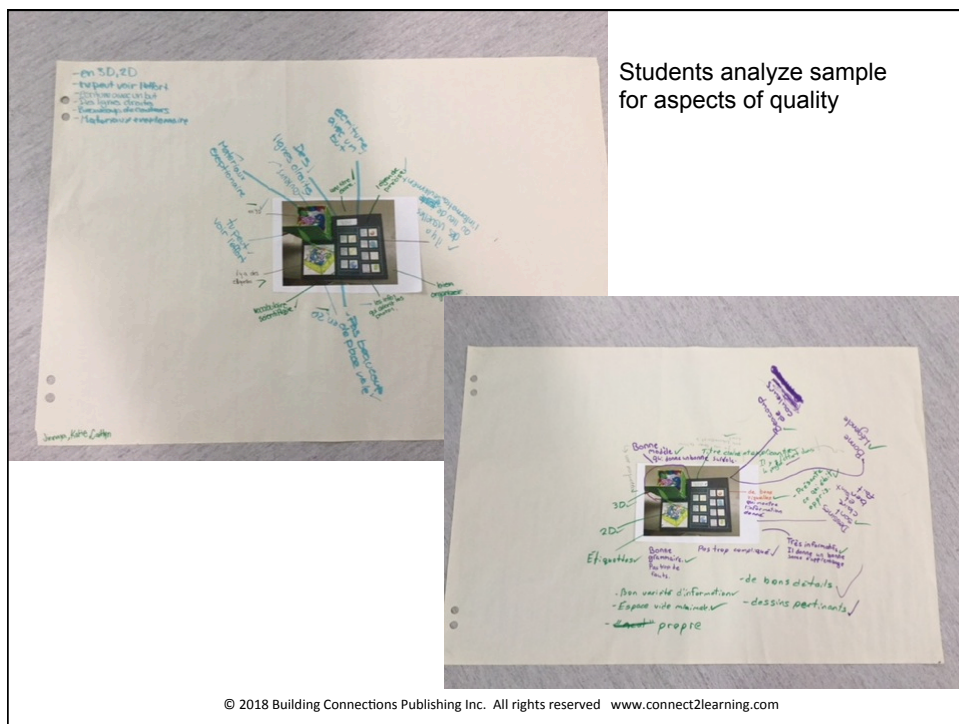
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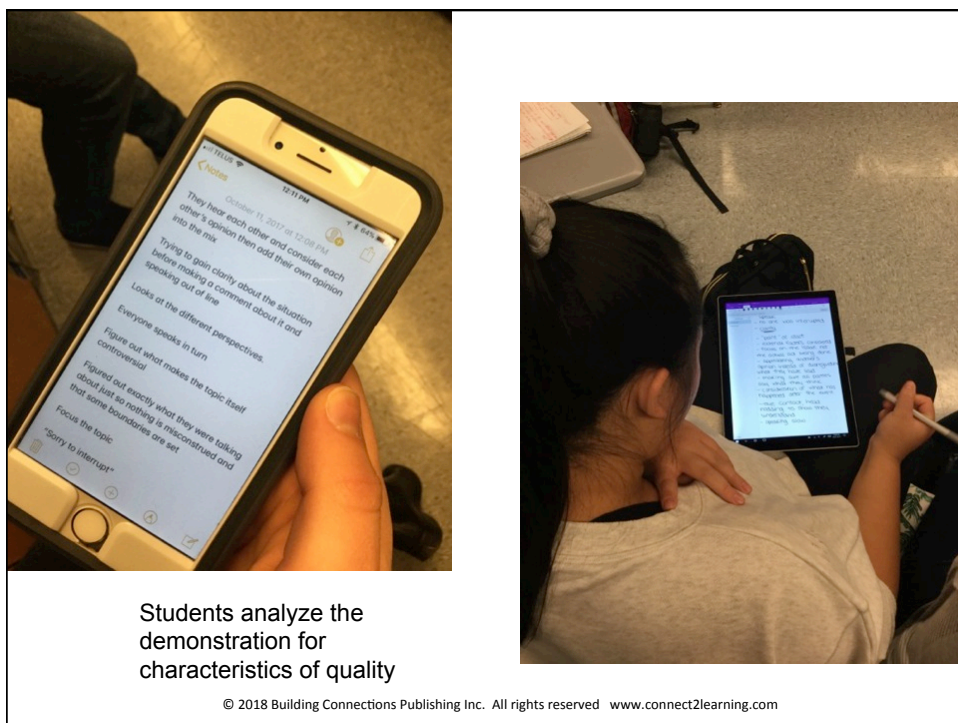
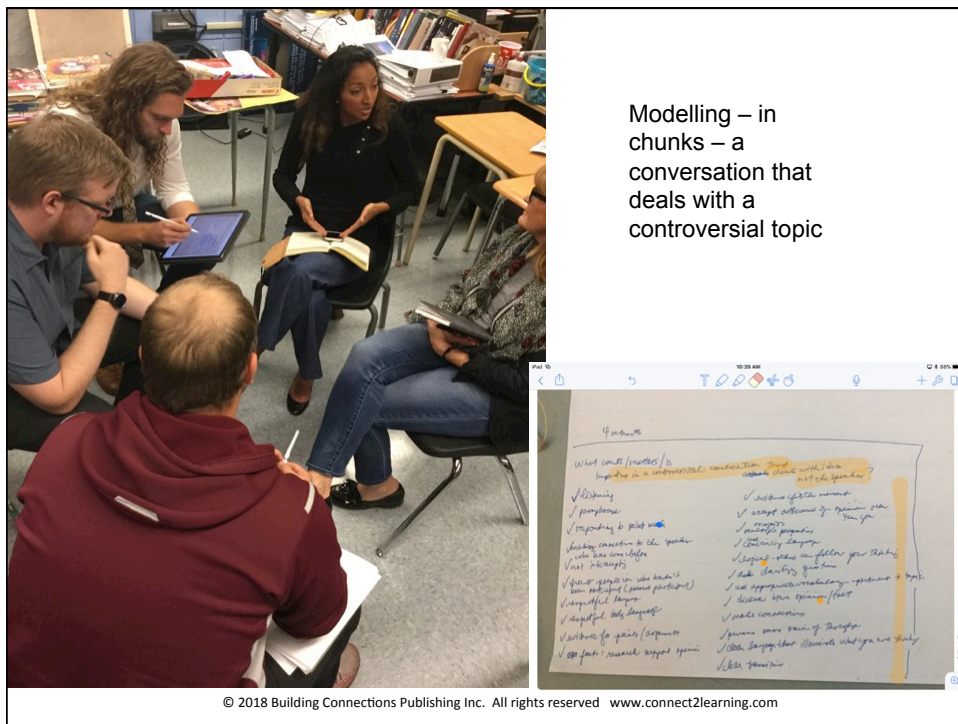


Product sample for basis of co-constructing criteria

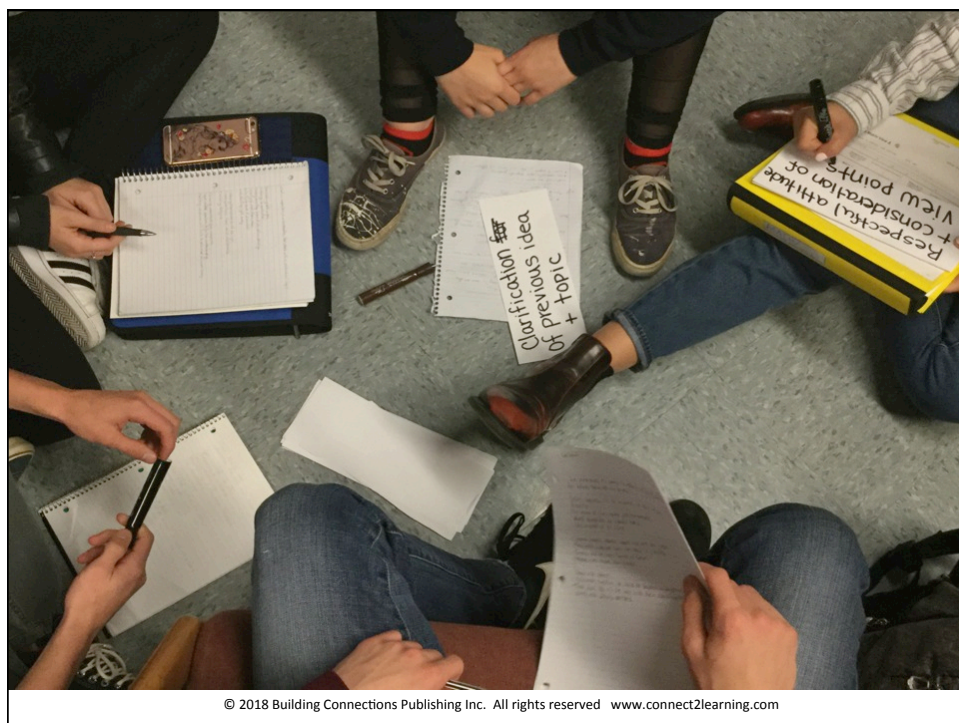
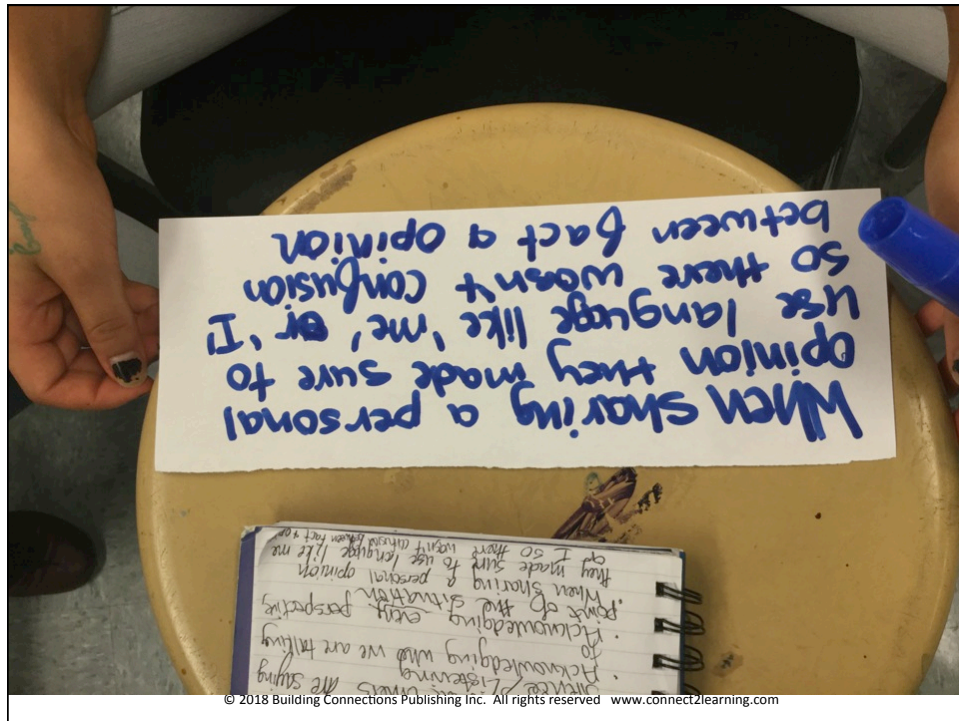
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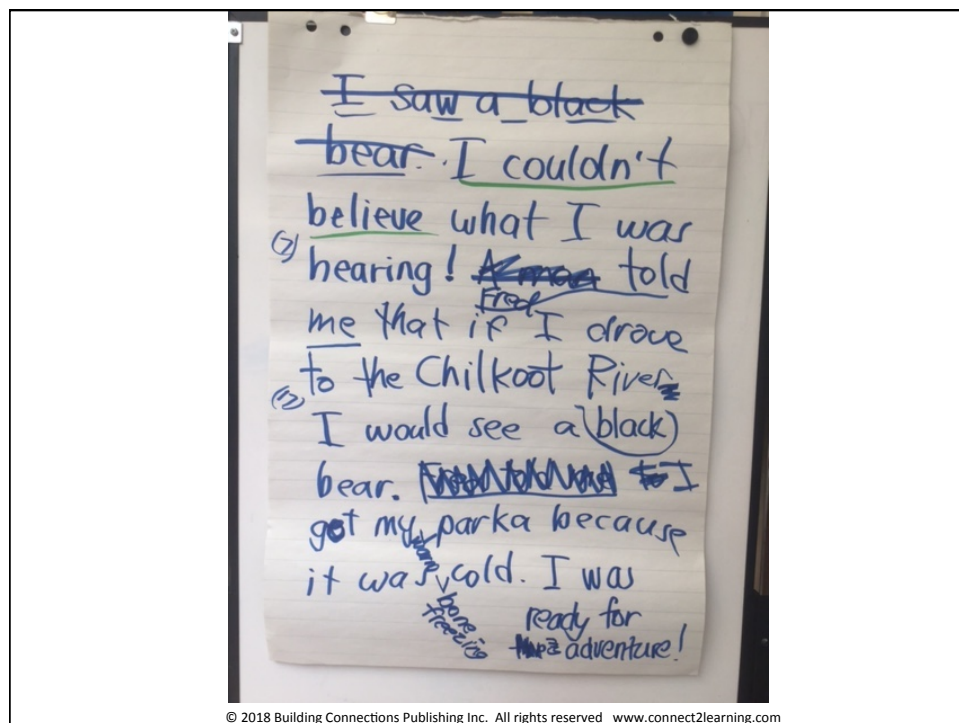
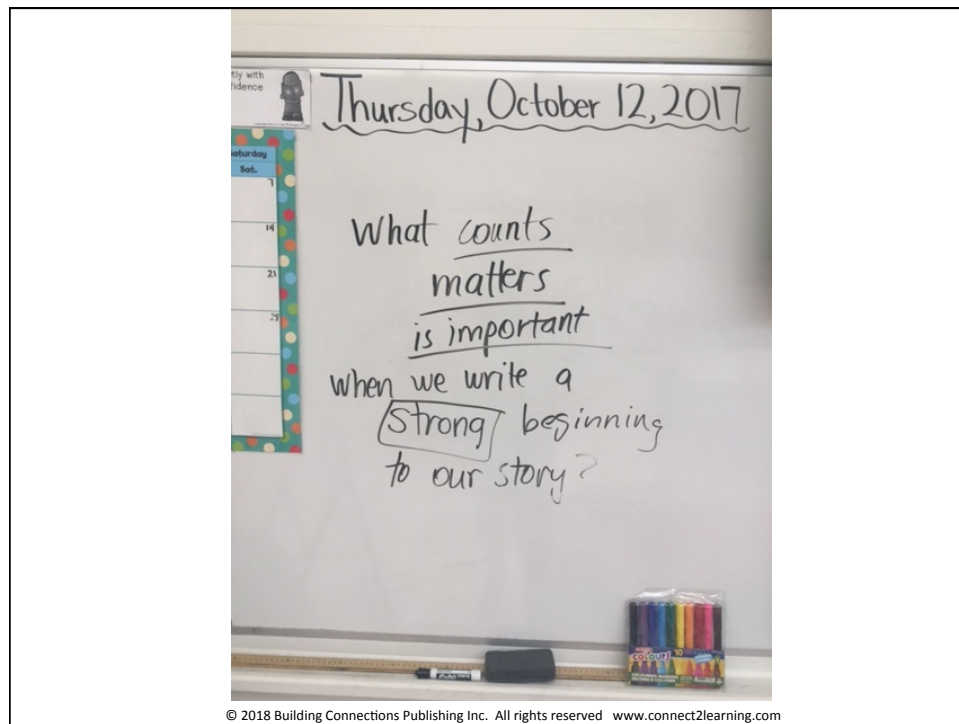


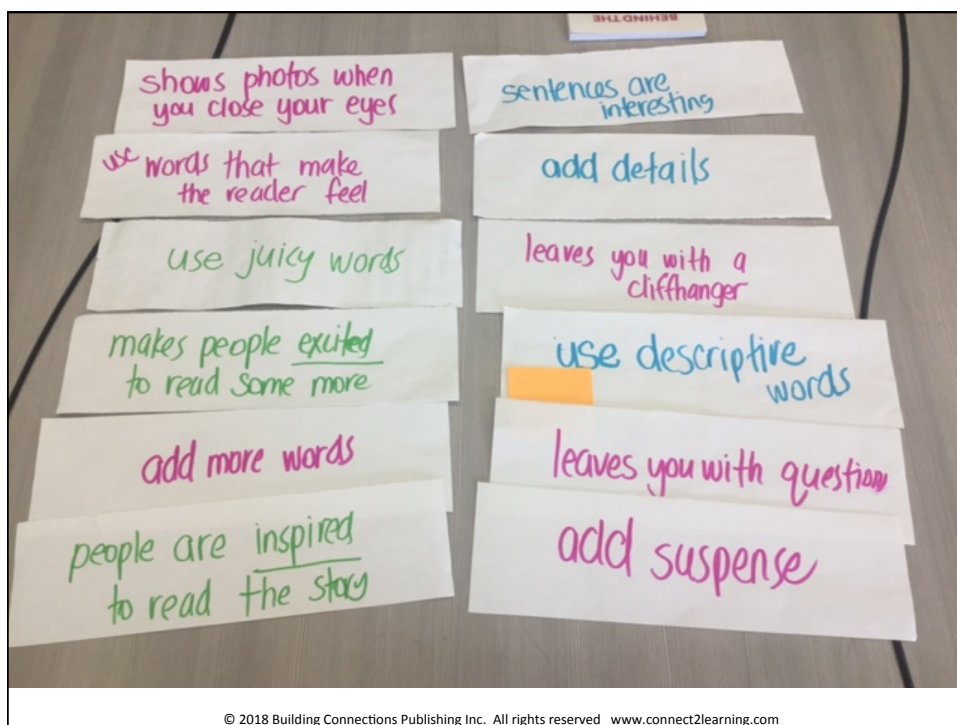
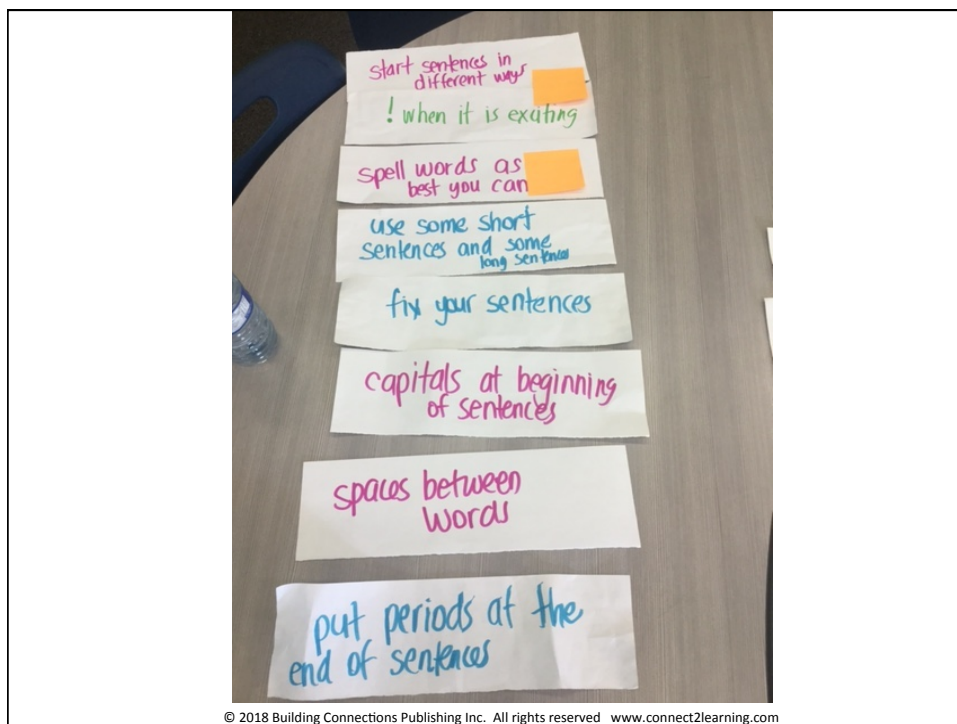




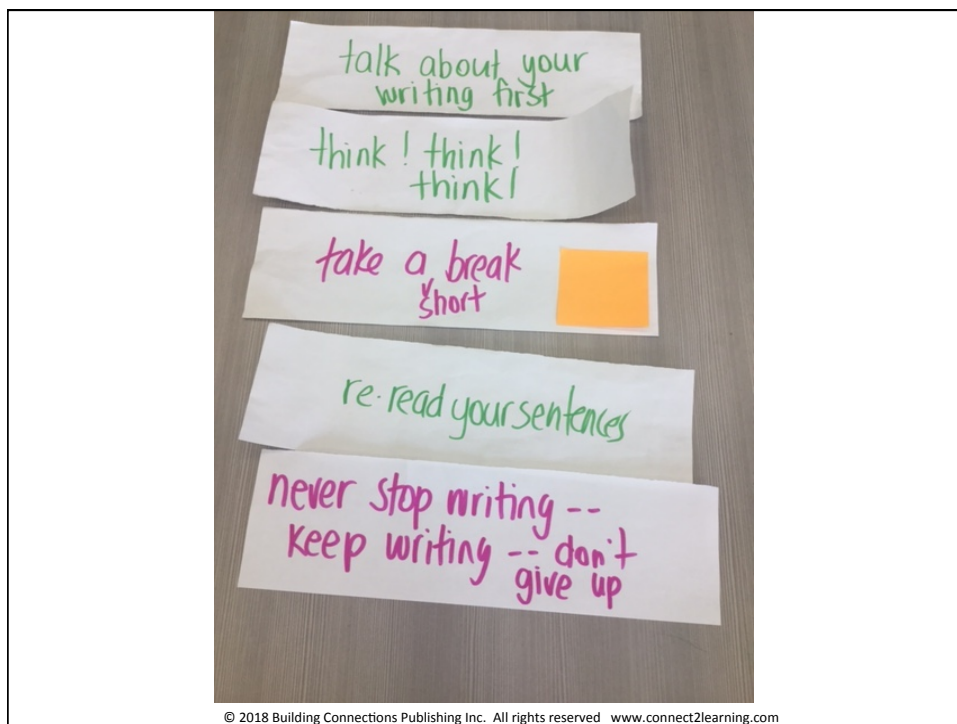
Co-constructed Criteria for Controversial Conversations	
Communication	<p>Maintain respectful</p> <ul style="list-style-type: none"> <li>• Voice</li> <li>• Tone</li> <li>• Language - word choice and phrasing</li> <li>• Body language</li> <li>• Eye contact</li> <li>• Examples and evidence</li> <li>• Opinions</li> </ul> <p>Construct a comfortable environment</p> <p>Seek to understand each other</p> <ul style="list-style-type: none"> <li>• Avoid deliberate provocation</li> </ul> <p>Paraphrase the thoughts of others</p> <p>Listen to hear rather than listen to speak</p> <p>Attempt to communicate the degree of fullness (or "partialness") of an individual thought</p> <p>Encourage participation</p> <p>Use names</p> <p>Demonstrate appreciation for others</p> <p>Practice self-regulation</p> <p>De-escalate and argument to a conversation</p> <p>Avoid interruptions, side conversations, dismissive behaviour</p>
Topic	<p>Set boundaries for discussion</p> <p>Select a subject</p> <p>Provide a purpose</p> <p>Evaluate the stream of evidence and/or information</p>
Thought	<p>Value what others have to say</p> <p>Employ rhetoric to convince rather than to argue</p> <p>Provide an assertion/argument/position</p> <p>Ask clarifying questions to others and to self</p> <p>Explore thoughts and understanding</p> <p>Aim for objectivity</p> <p>Endeavour to include all information and all perspectives</p> <p>Reflect on individual biases</p> <p>Seek to understand the complexity of the topic</p> <p>Maintain flexibility in argument</p> <p>Complete thoughts whenever possible</p> <p>Employ relevant and accurate examples</p> <p>Focus on the task</p> <p>Organize ideas</p> <p>Connect comments together in a coherent train of thought</p>

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How - do you use )

CRITERIA (Instructionally significant)	Teacher	Students
	✓ to teach list	✓ to learn list
	✓ (3)4 → rubric	✓ lang ↳ goals ↳ self/peer
	✓ lang - narr. comments	✓ to prove list

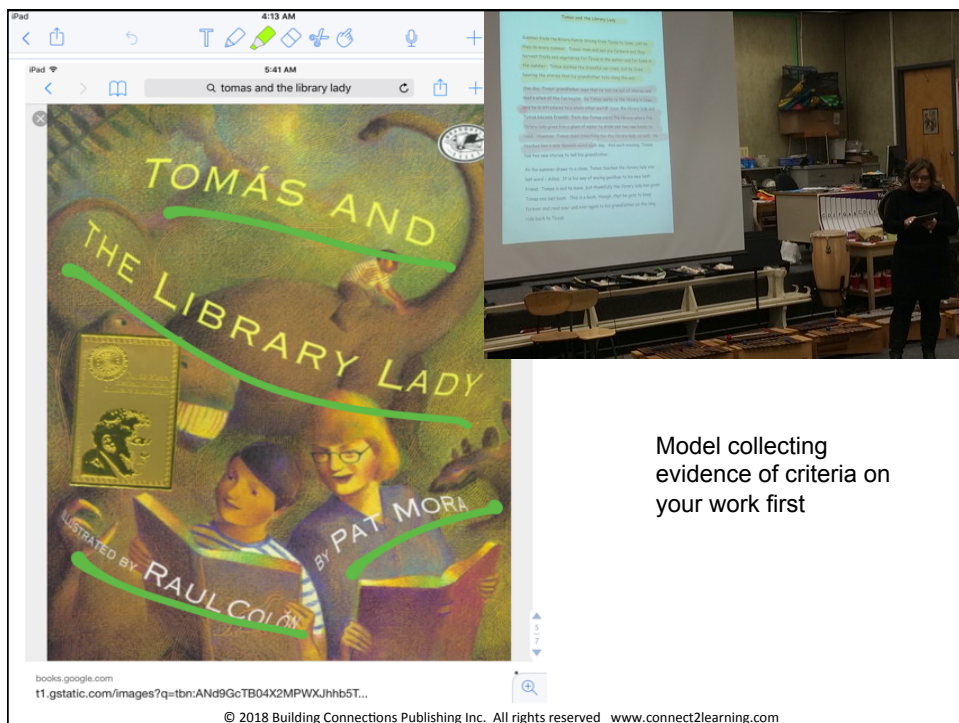
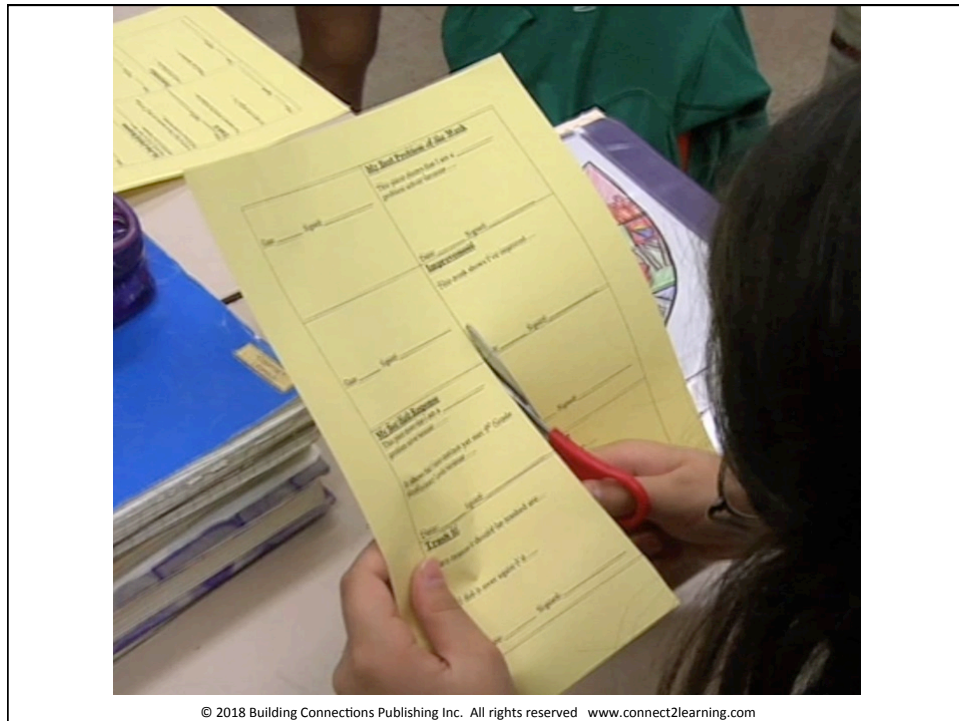
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Modelling the act of giving feedback

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Modelling the act of giving feedback

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<p><b>Proof Card</b></p> <p>Here is proof that I included all of the main ideas in order...</p>	<p><b>Proof card</b></p> <p>Here is proof that I....</p> <p>...in my writing...</p>
<p><b>Proof Card</b></p> <p>Here is proof that I left out specific details...</p>	<p><b>Proof card</b></p> <p>Here is proof that I....</p> <p>...in my writing...</p>
<p><b>Proof Card</b></p> <p>Here is proof that I read my work over and asked, "Does this make sense?"...</p>	<p><b>Proof card</b></p> <p>Here is proof that I....</p> <p>...in my writing...</p>

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iPad 4:13 AM 88%

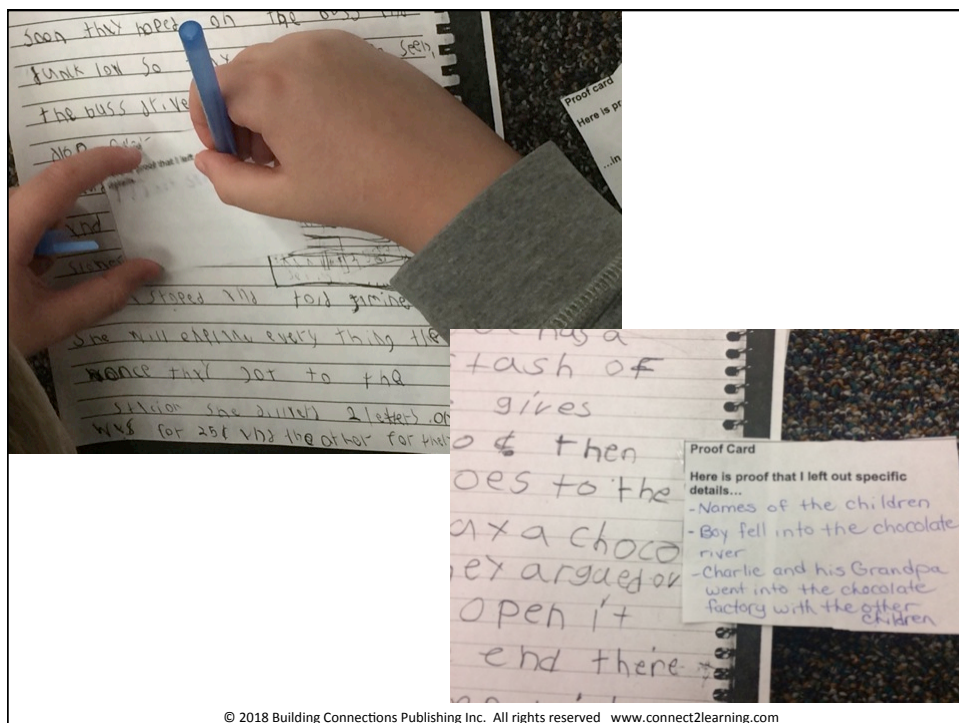
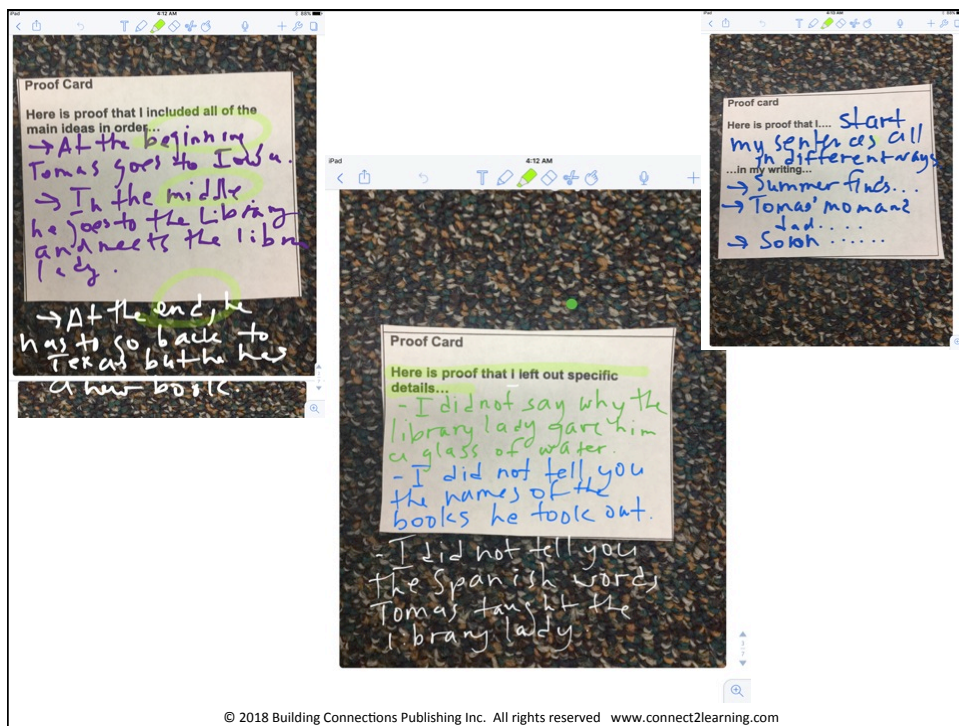
**Tomas and the Library Lady**

Summer finds the Rivera family moving from Texas to Iowa, just as they do every summer. Tomas' mom and dad are farmers and they harvest fruits and vegetables for Texas in the winter and for Iowa in the summer. Tomas dislikes the dreaded car rides, but he loves hearing the stories that his grandfather tells along the way.

One day, Tomas' grandfather says that he has run out of stories and that's when all the fun begins. So Tomas walks to the library in Iowa and he is introduced to a whole other world! Soon the library lady and Tomas become friends. Each day Tomas visits the library where the library lady gives him a glass of water to drink and two new books to read. However, Tomas does something for the library lady, as well. He teaches her a new Spanish word each day. And each evening, Tomas has two new stories to tell his grandfather.

As the summer draws to a close, Tomas teaches the library lady one last word - Adios. It is his way of saying goodbye to his new best friend. Tomas is sad to leave, but thankfully the library lady has given Tomas one last book. This is a book, though, that he gets to keep forever and read over and over again to his grandfather on the long ride back to Texas.

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## What Counts When Solving Math Problems

- The work you show to get to the answer.
- Strategies used
- Showing pictures
- Using formulas
- Therefore statements
- Showing final answer
- Using all information

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10:52 AM 84%

A market gardener harvested  $-11t^2 + 1.92t + 54.15$  red tomatoes (R). She also harvested  $.003t^2 - 0.634t + 81.93$  of heritage tomatoes (H). She harvested  $-11t^2 + 1.92t + 54.15 + .003t^2 - 0.634t + 81.93$  of tomatoes. What is the total amount of tomatoes harvested?

$$\text{Ans} = R + H$$

$$\text{Ans} = (-11t^2 + 1.92t + 54.15) + (.003t^2 - 0.634t + 81.93)$$

$$-11t^2 + .003t^2 + 1.92t - 0.634t + 54.15 + 81.93 = \text{Ans} \therefore$$

$$(-10.997t^2 + 1.286t + 136.08)$$

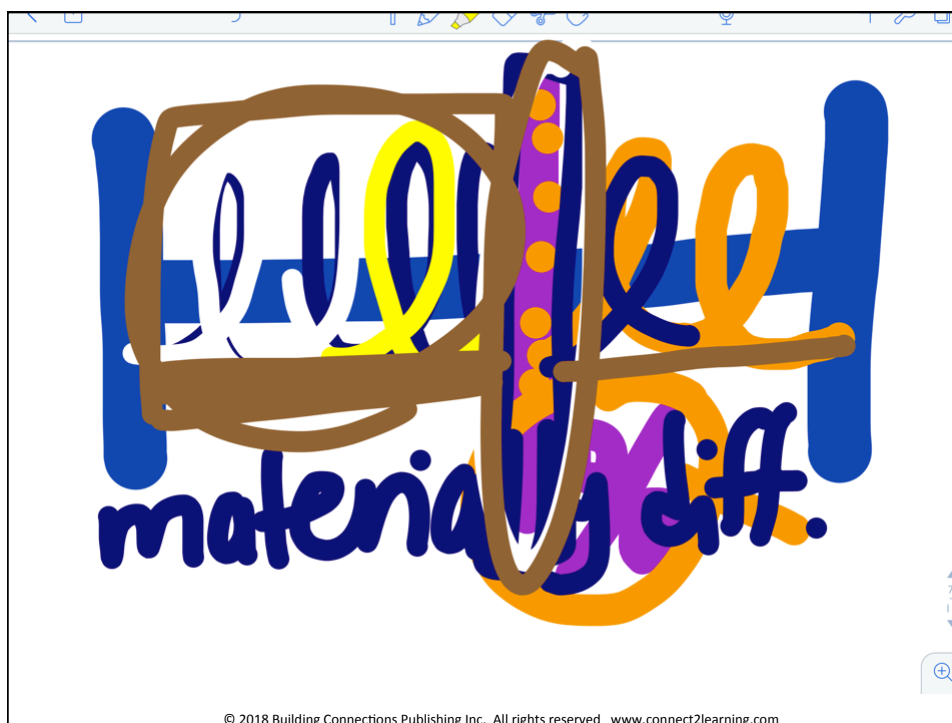
The total # of tomatoes harvested

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What Counts When Solving Math Problems		What Counts When Solving Math Problems	
Criteria	Evidence	Criteria	Evidence
The work you show to get to the answer	Rewrites the equation in brackets Outside of the brackets and puts Together the like terms.	The work you show to get to the answer	Rewrites the equation in brackets Outside of the brackets and puts Together the like terms.
Strategies used	Reread the question and points out The most important parts of the data. Uses calculator to get accurate Answers for like terms.	Strategies used	Reread the question and points out The most important parts of the data. Uses calculator to get accurate Answers for like terms.
Showing pictures		Showing pictures	
Using Formulas		Using Formulas	
Therefore statements	Restated that she had found the Answer to the problem.	Therefore statements	Restated that she had found the Answer to the problem.
Showing final answer	She show final answer with all steps And checks answer when finished.	Showing final answer	She show final answer with all steps And checks answer when finished.
Using all information	Takes every significant part of data From the question and used it into In finding the total amount of tomatoes Harvested.	Using all information	Takes every significant part of data From the question and used it into In finding the total amount of tomatoes Harvested.

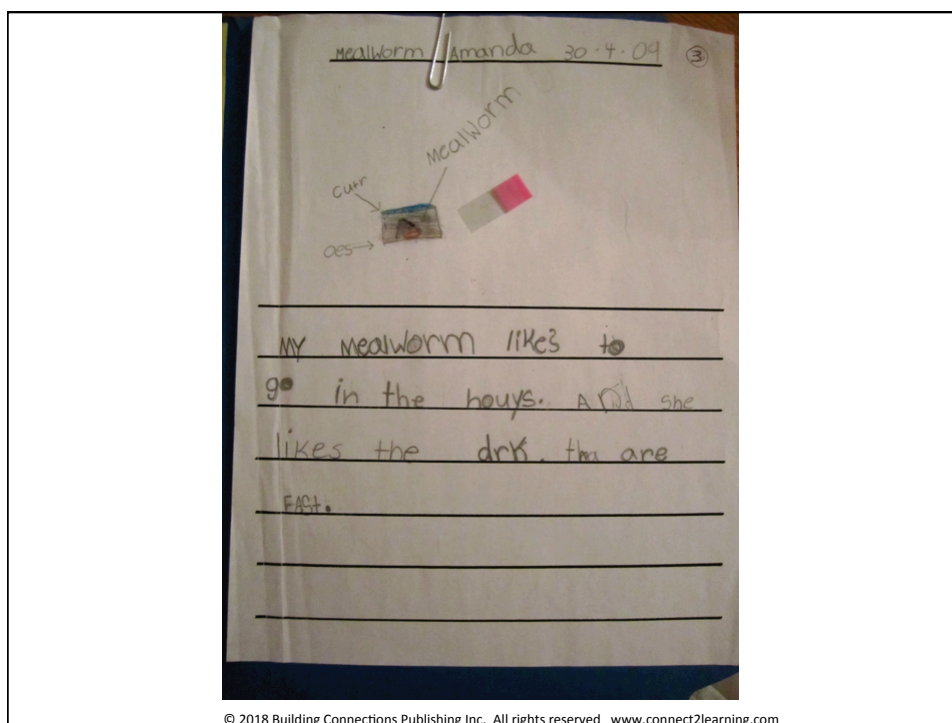
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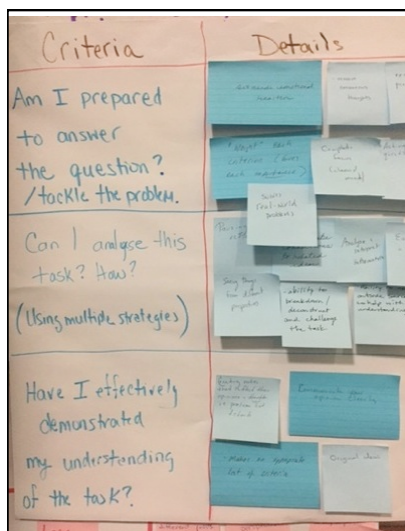
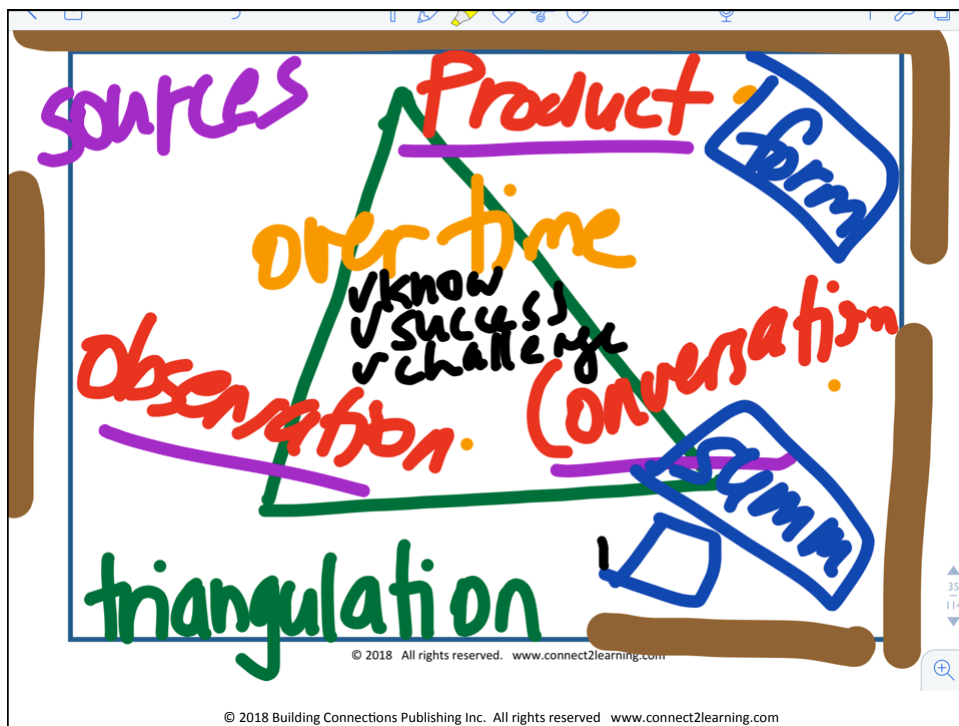


**What Counts in Collaboration?**

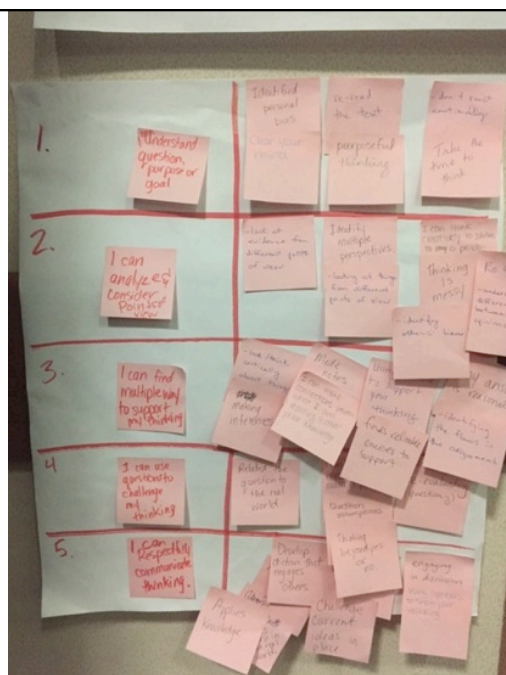
Criteria	Details
Communicates in a positive way	<ul style="list-style-type: none"> <li>Uses respectful language</li> <li>Minimizes negative expressions</li> <li>Listens to the ideas of others</li> <li>Listens to the concerns of others</li> <li>Responds positively to others</li> <li>Does not "put down" others</li> </ul>
Understands and stays focussed on the task	<ul style="list-style-type: none"> <li>Understand the task</li> <li>Attends</li> <li>Is punctual</li> <li>Is prepared</li> <li>Fulfills the assigned role within the group</li> <li>Does share of the work</li> <li>Works towards the goal</li> <li>Stays on task</li> <li>Shares information</li> </ul>
Engages with others cooperatively	<ul style="list-style-type: none"> <li>Participates in discussion</li> <li>Cooperates</li> <li>Compromises as necessary</li> <li>Reflects on the work</li> <li>Builds relationships with others</li> </ul>

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Criteria often leads us to the need to collect evidence from beyond product



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Observations  
Writers' Workshop

Name	Date	Date	Date	Date	Date	Date
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC
	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC	RSKTC

R=uses resources around the classroom to write      S=gets started independently      K=keeps him/herself writing  
T=talk about his/her writing      C=uses criteria for writing

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Observations/Conversations  
Mathematics - Communications

Name	Date	Date	Date	Date	Date	Date
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA
	TCEA	TCEA	TCEA	TCEA	TCEA	TCEA

T=uses mathematical terminology and vocabulary appropriately  
C=responds clearly in sufficient detail so thinking can be understood by others with little inference  
E=elaborates to explain mathematical ideas  
A=explains alternate ways

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Observations/Conversations

Mathematics Communications

quantify

coding

my pattern/1-1

evidence that contrasts

no contrast

2:1

Truses mathematical terminology and vocabulary appropriately

Responds clearly in sufficient detail so thinking can be understood by others with little inference

Elaborates to explain mathematical ideas

A=explains alternate ways

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90

The image shows a worksheet with a table at the top. The table has columns for 'Name', 'Date', and 'Date'. The first row has a hyphen '-' in the 'Name' column and '06/06' in the 'Date' columns. A yellow sticky note with a red 'X' and a black 'A' is attached to the top. A large, complex, colorful scribble covers the majority of the page. The scribble includes various symbols like 'A', '2', 'T', 'E', 'A', '2.5', and '1.5'. A red rectangle highlights a portion of the scribble. The worksheet has a footer with the text '© 2018 Building Connections Publishing Inc. All rights reserved. www.connect2learning.com'.

Observations/Conversations  
ELA - Communication

Name	Date	Date	Date	Date	Date	Date
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV
	RPECV	RPECV	RPECV	RPECV	RPECV	RPECV

R=uses respectful language  
P=paraphrases what someone has said before responding  
E=supports ideas with evidence  
C=makes personal/world connections  
V=uses precise and relevant vocabulary

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Observations/Conversations  
ELA - Communication

Name	Date		Date		Date	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	
	RPECV		RPECV		RPECV	

R=uses respectful language  
P=paraphrases what someone has said before responding  
E=supports ideas with evidence  
C=makes personal/world connections  
V=uses precise and relevant vocabulary

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**Autoévaluation lors de laboratoire SCH 40**

Préparation pré-lab		accompli	Non accompli	Commentaires
1. préparations personnelles : (nom, le cartouche, nom, affichage)				
2. lire les directives du lab				
3. signaler questions ou incertitudes avant le lab				
Le labo		réussi	A réviser	Commentaires
1. suivre les étapes attentivement				
2. bien lire la liste de matériaux requis				
3. prendre en note les données expérimentales				
4. nettoyer ma place après le lab				
Le travail d'équipe		accompli	Non accompli	Commentaires
1. bonne entraide				
2. bonne communication				
3. distribution équitable des tâches : avant, pendant et après				
La sécurité		réussi	A réviser	Commentaires
1. manipuler les substances de façon prudente et responsable				
2. respecter les consignes de sécurité				
3. suivre les règlements du labo				

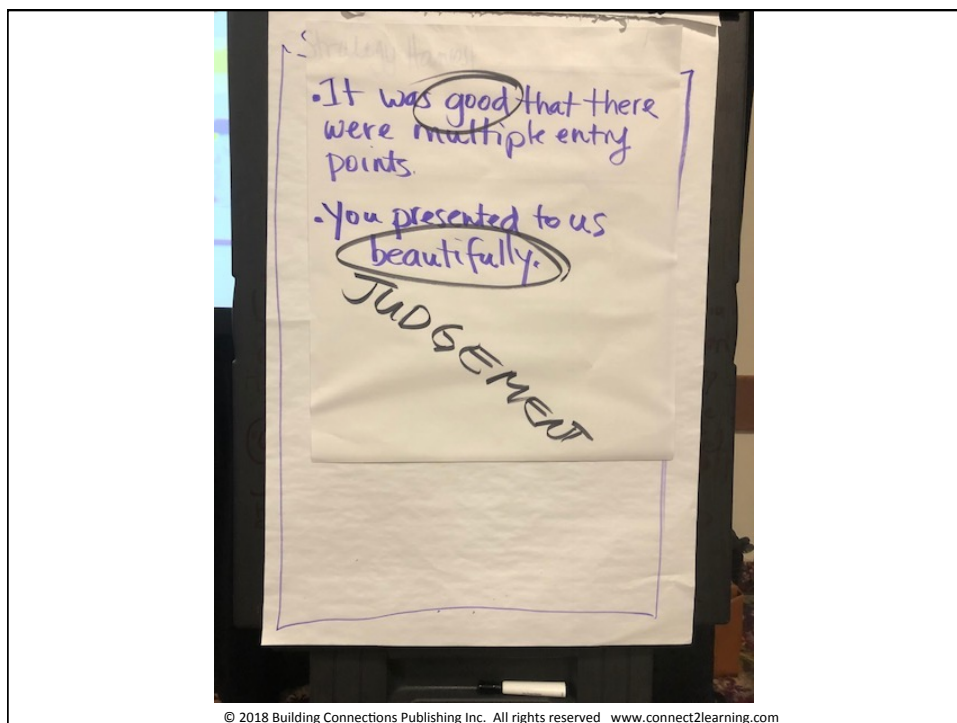
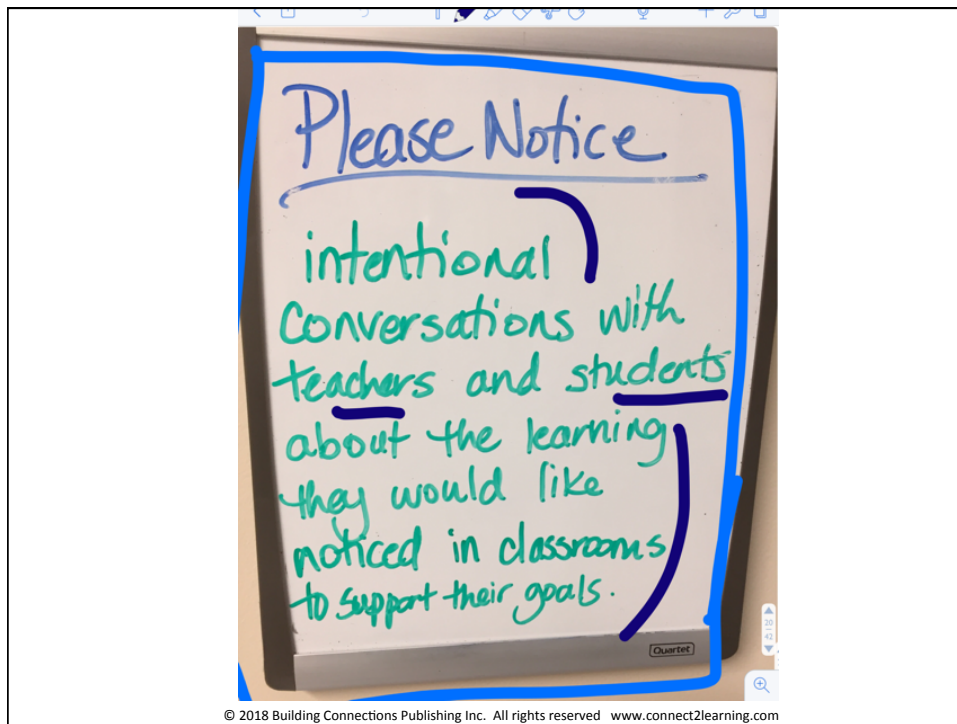
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**Observations de résolution de problèmes**

Nom	R	E	S	O	U	S	Commentaires
Jacob	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Camille	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Maurice	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Francine	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Jamie	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Patrice	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Kirsten	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Jess	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Brenden	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Julie	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Hannah	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Mérodie	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Carson	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	
Danielle	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	RÉSOUS	

R = relève le problème    E = évalue les données    S = stratégie    O = organise ses étapes    U = utilise les bons outils    S = solutionne  
surligner pour chaque lettre, évaluer tous le plus possible.

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- I like standing up and tapping into our kinesthetic side
- I appreciated that you re-visited things and either added or modelled
- I felt valued and welcomed into the learning space

Personal Observation

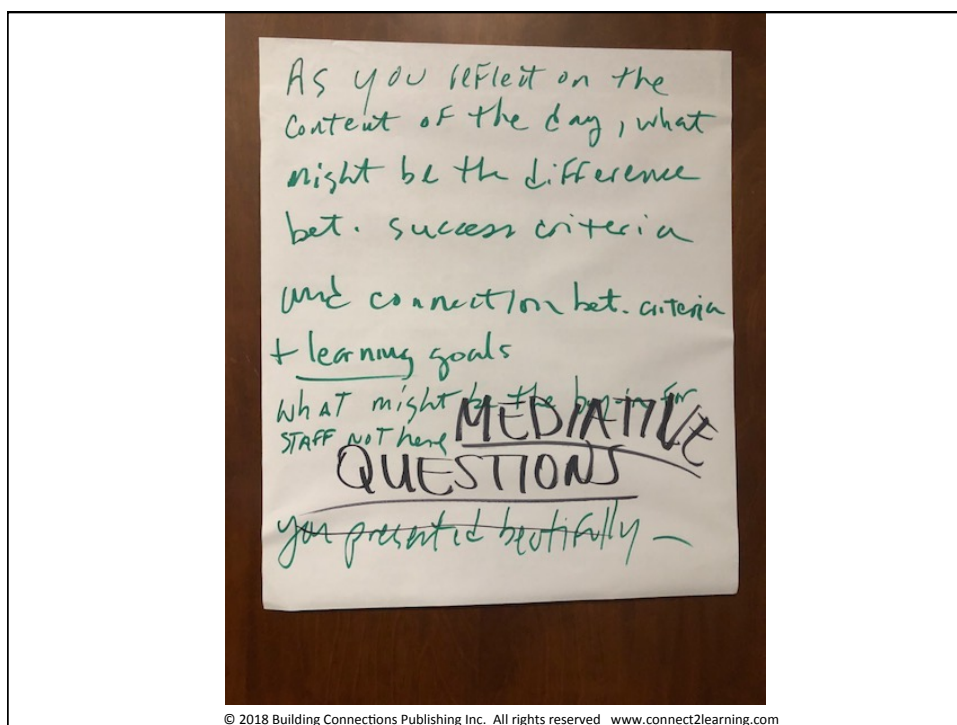
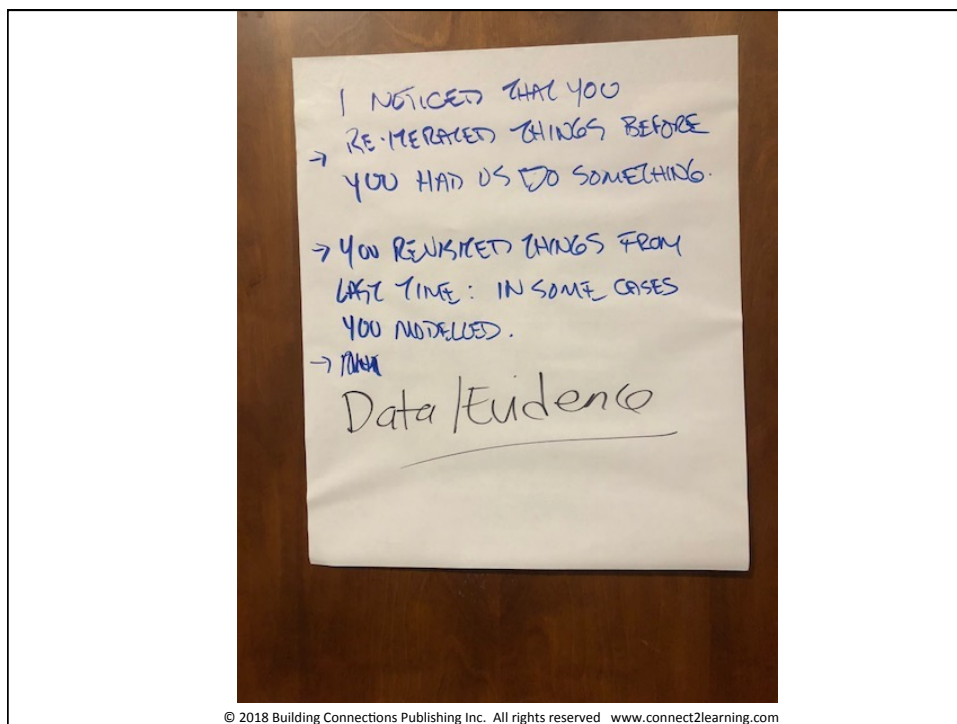
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- Because you used real examples it made it authentic and allowed people to see themselves
- Because you used the strategies with us we can take them back to class

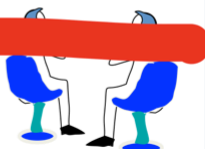
Cause : Effect

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## QUESTIONS ARE MEDIATIVE...



- Approachable voice
- Elicit a slow response
- Move thinking from reaction to reflection
- Plural forms
- Exploratory and tentative language
- Positive Presuppositions
- Open ended – allow for multiple responses and avoid yes/no answers
- Empower the person you are asking to access their internal resources

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## A Reflection on Feedback...

**MELazerte Catchment Leadership Professional Learning**  
**Feedback crafted based on class visits/walkthroughs**  
**March 7, 2017**

Noticing...	Mediative Question
I noticed that you used the student example of writing as a teaching tool?	What were the reasons that you chose that piece of student work?
I noticed you wrote proficient and then asked what would move proficient to excellent.	In what ways does your instruction allow your students to know the difference between proficient and excellent?
I noticed that when prompted, students began conversations quickly within their table groups.	In what ways have you put structures in place so that all students have a voice in the conversation?
I noticed that there were six groups of six students?	In what ways do these groupings contribute to the learning environment of your classroom?
I noticed that you gave your students a copy of the essay and it was up on the whiteboard to reference.	In what ways do you use these tools to enhance instruction?
I noticed you used a writing sample from a student in your class.	I am wondering what process you used to get students to a level of comfort to share their work?
I noticed that you used a student exemplar to teach about the structure of the essay.	In what ways will students give each other feedback on their essays and how or when will they have a feedback conversation with you?
I noticed that your students were sitting in small groups.	In what ways are the groups formed?
I noticed that you called on students to contribute to classroom conversations.	How do you make decisions about which students to call on?
I noticed you had some points or questions written on stickies written on the board ledge.	What other strategies do you use to plan effective questioning in your lesson?
I noticed social media, current events were used.	In what ways does this enhance student engagement in your class?

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## A Reflection on Feedback...

I noticed that some students raised their hands, some call out, and some remain silent.	In what ways do you check for understanding in those students who are less likely to participate?
I noticed that students were engaged.	How do you check for understanding of all students?
I noticed that you used personal information to connect to the lesson.	How does this improve student engagement?
I noticed you engaged students in real-life, authentic situations.	How do you account for students who may not have extensive background knowledge?
I noticed that students had a recording form.	How might you use this as an engagement tool?
I noticed you taking answers from those who volunteer.	In what ways do you engage those who do not typically raise their hands?
I noticed that you had "North Korea-What do you expect to see?" on the board.	How are you able to build this background information?
I noticed about 1/3 of students responded out loud and most responding in writing.	What strategies do you have in place to hear every student's voice?

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What are your reasons for \_\_\_\_\_?  
In what ways does the strategy of \_\_\_\_\_  
make you a more effective classroom teacher?  
What is your thinking about \_\_\_\_\_?

I notice many visual tools on the walls. What processes do you use to cue students to use them to support their own learning?

In what ways has your rubric enhanced learning?

In what ways do you know you met the goals of the lesson, for both the students and yourself?

I noticed the daily visual and written Guided Reading activities schedule posted on your wall. I am wondering about the challenges of working with your guided reading group while the rest of your students are working independently on the assigned activities.

As I observed your math lesson today, the student were involved in solving addition and subtraction questions. I am wondering how you can use math vocabulary in other subject areas?

I noticed you are posting the learner objectives/outcomes for students to view. In what ways might this deepen their understanding of the concepts taught?

As I watched your students interact in their centres with high levels of engagement, in what ways are you assessing your high, medium and low learners? (formatively and summatively?)

**The compilation of questions enclosed is a collaborative effort from M.E. LaZerte Catchment and J. Percy Page Catchment schools.**

 EDMONTON PUBLIC SCHOOLS

"Mediative questions cause deep thinking!"

## What is a mediative question?



**Mediative questions:**

- Are open-ended (allow for multiple responses and avoid yes/no answers)
- Elicit a slow response
- Move thinking from reaction to reflection
- Empower the person being asked to access their internal resources

**Mediative questions get us thinking deeply about practice. See inside for some examples that have been developed.**

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I noticed that students were given directions upon entry and they had a copy of the essay that contained markings done by them, as well as pre-existing markings. The materials on students' desks were materials needed for learning. In what ways have you set up your class prior that enables the effective decontextualization of the essay to occur?

I observed that you used the student example of writing as a teaching tool. What were the reasons that you chose that piece of student work?

I noticed you wrote proficient and then asked what would move proficient to excellent. In what ways does your instruction allow your students to know the difference between proficient and excellent?

I noticed that there were six groups of six students. In what ways do these groupings contribute to the learning environment of your classroom?

I noticed that your students were sitting in small groups. In what ways are the groups formed?

I noticed that you gave your students a copy of the essay and it was up on the whiteboard to reference. In what ways do you use these tools to enhance instruction?

I noticed students squinting as they looked at the sample on the smartboard. I wonder what this makes you think about?

I noticed you used a writing sample from a student in your class. I am wondering what process you used to get students to a level of comfort to share their work?

I noticed that you used a student exemplar to teach about the structure of the essay. In what ways will students give each other feedback on their essays and how or when will they have a feedback conversation with you?

I noticed that when prompted, students began conversations quickly within their table groups. In what ways have you put structures in place so that all students have a voice in the conversation?

I noticed that you called on students to contribute to classroom conversations. How do you make decisions about which students to call on?

I noticed you had some points or questions written on stickies written on the board ledge. What other strategies do you use to plan effective questioning in your lesson?

I saw that social media and current events were used. In what ways does this enhance student engagement in your class?

I noticed that some students raised their hands, some call out, and some remain silent. In what ways do you check for understanding in those students who are less likely to participate?

I noticed that students were engaged. How do you check for understanding of all students?

I observed that you used personal information to connect to the lesson. How does this improve student engagement?

I noticed you engaged students in authentic real life situations. How do you account for students who may not have extensive background knowledge?

I noticed that students had a recording form. How might you use this as an engagement tool?

I noticed you taking answers from those who volunteer. In what ways do you engage those who do not typically raise their hands?

I noticed that you had... What do you expect to see? on the board. How are you able to build this background information?

I noticed about 1/3 of students responded out loud and most responding in writing. What strategies do you have in place to hear every student's voice?

I noticed how you presented your mapping skills on the boards. How do you make sure all these different tools support the students understanding?

I notice you have Signposts in your classroom for both Fiction and Nonfiction. In what ways have you found this to be beneficial for your students when reading different forms of text? How does this support reading across all curricular content?

I noticed that you have student work criteria posted. In what ways have you found this to impact the quality of student work?

I wonder how the physical layout of a classroom seating affects your use and presentation of material located on the various subject anchor charts/boards in the room.

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When feedback is a one-way transfer from observer to teacher, it limits the opportunity for instructional leaders to continue to grow. Our greatest resource for professional growth is the teachers we supervise, who can challenge us to think more deeply about teaching and learning, and can push us beyond our personal experience. Justin Baeder

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78

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# The Thinking Symposium:

*Engaging Learners – Connecting Success  
Criteria to Feedback, Evidence and  
Evaluation*

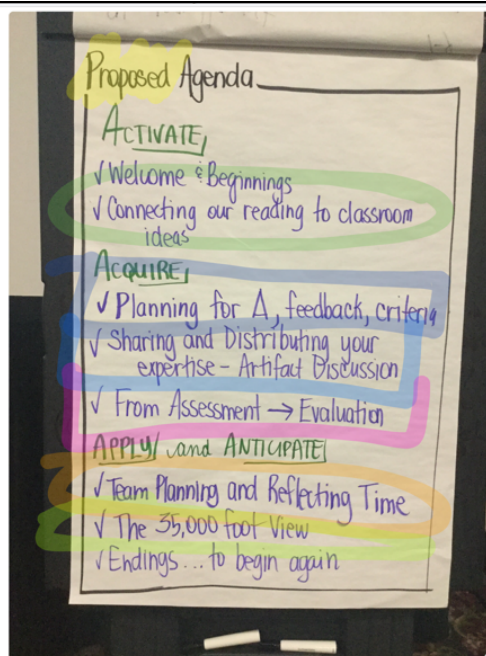
DAY TWO

with Sandra Herbst

April 2018



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You measured the perimeter of a triangle. It was 20 cm. What could the side lengths be?

$$\begin{array}{l} 3 \times 5 = 15 \quad 3 \times 6 = 18 \\ 7 + 7 + 7 = 21 \\ 3 \times 6.5 = \end{array}$$

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Conversations with Ms. Faucher and Romina

File Edit View Insert Format Tools Table Add-ons Help All changes saved in Drive

Comments Share

100% Normal text Arial 11 B I U A

Oct. 5- confederation conversation

today ms. faucher and I met about my argument for my confederation project. I have done a good job at setting up my position in a clear way by using supporting details. but some of these details are not in order so I need to go back and check some of my dates. I also need to proofread because some of my sentences are missing words and it makes it confusing and this makes my argument not as strong. Ms. faucher suggested to me that I read my argument outloud.

Thank you for your time today Romina! - Ms. Faucher

Dec. 8- Louis Riel Documentary

i am finished my research and starting my story board. I met with Ms. faucher today because I didn't really understand how to take my notes and put them in the story board. Ms. faucher and I looked through my research and found that I was missing some information that is important to the Louis Riel trial. First I am going to get that information. Ms. faucher gave me a few suggestions on putting my notes in the story board but I liked the one about using colour and numbers to highlight facts that are connected and then putting a number to show order.

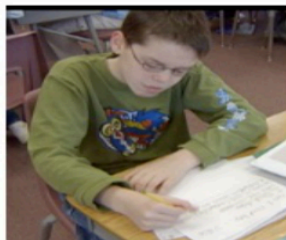
Jan. 7-Louis Riel Documentary

I met with ms. faucher at lunch today to go over my finished project before it is due. I brought my peer review to help show where I thought I improved my movie. My feedback was that I did a good job using images and music to help make my movie interesting. I need to state my POV earlier so my audience knows if I think he was a hero or a traitor. right now it is at the end and it is making it hard to know what side I am showing.

Romina, I want to add that you are also under the time minimum for the project. We discussed that once you add in the information you are missing and take some time to explain your POV off the top. that this should bring you up to the time expectation. - Ms. Faucher

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Picture This



There is more to this picture than you can see. This is a photo

of me writing in my pause and think notebook.

I want you to notice that:

- \* I am working and thinking on my own.
- \* I am putting my math ideas into words.

Date: Oct. 4, 2013

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Picture This



There is more to this picture than you can see. This is a photo

of Karlee and I at the painting centre.

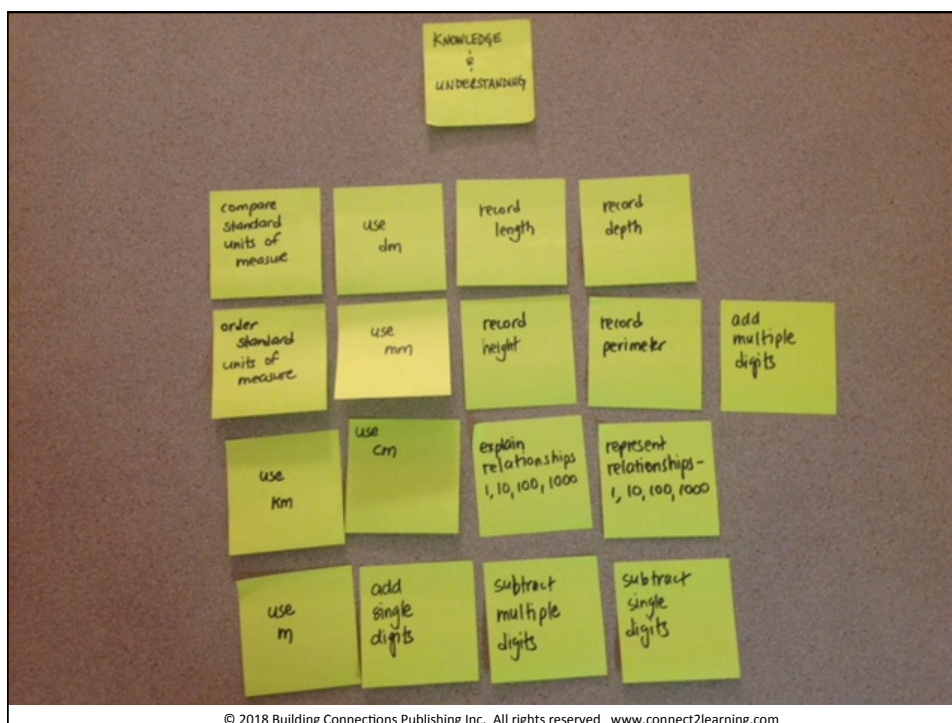
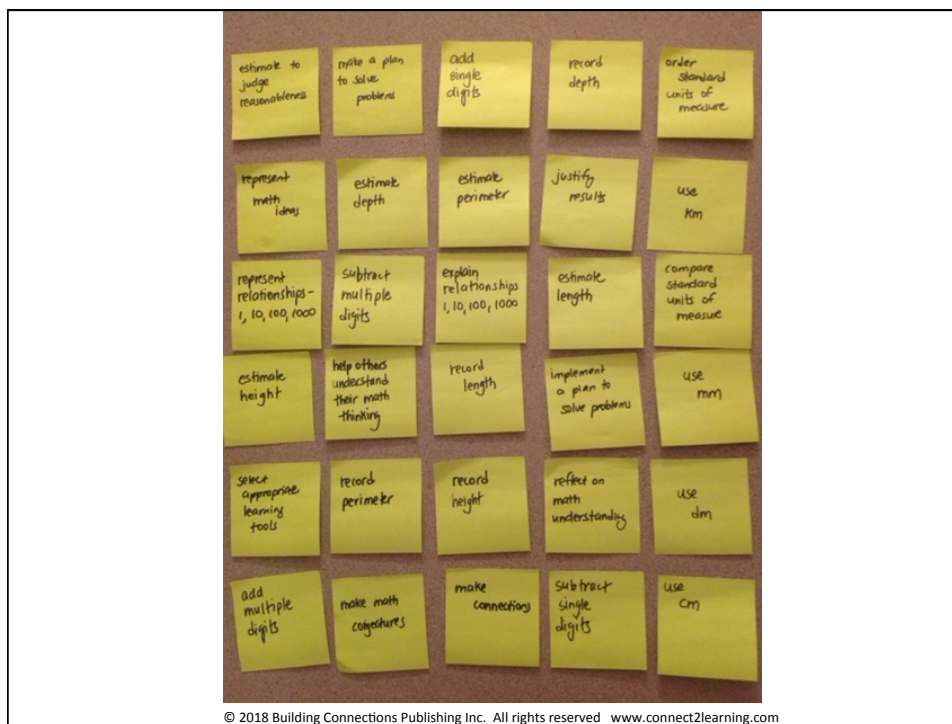
I want you to notice that:

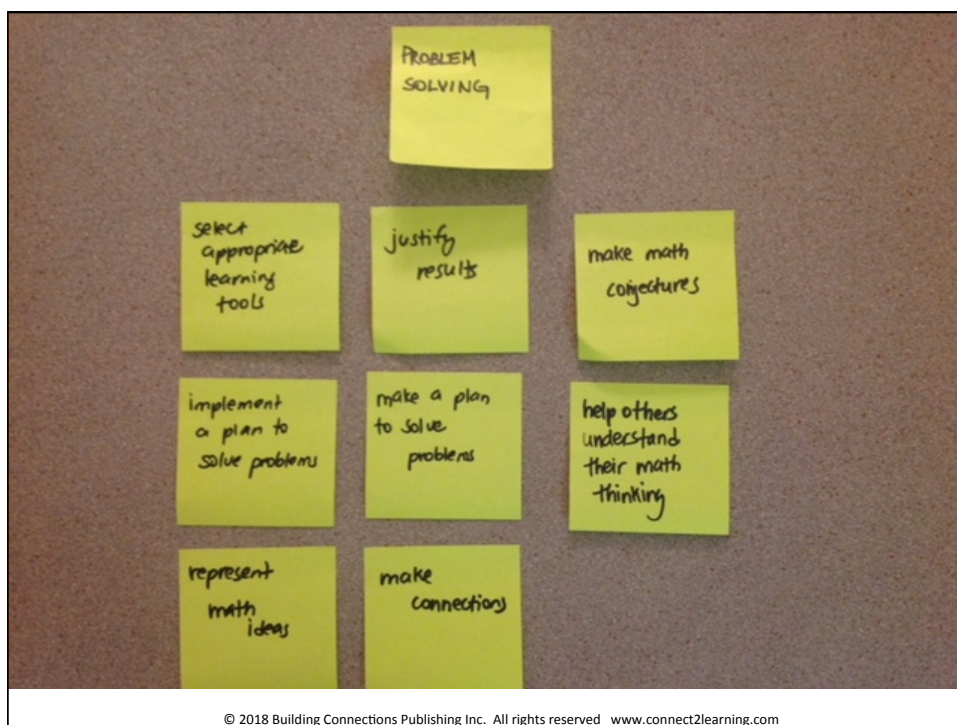
- We are sharing.
- We have our smocks on.

Date: Nov. 8/14

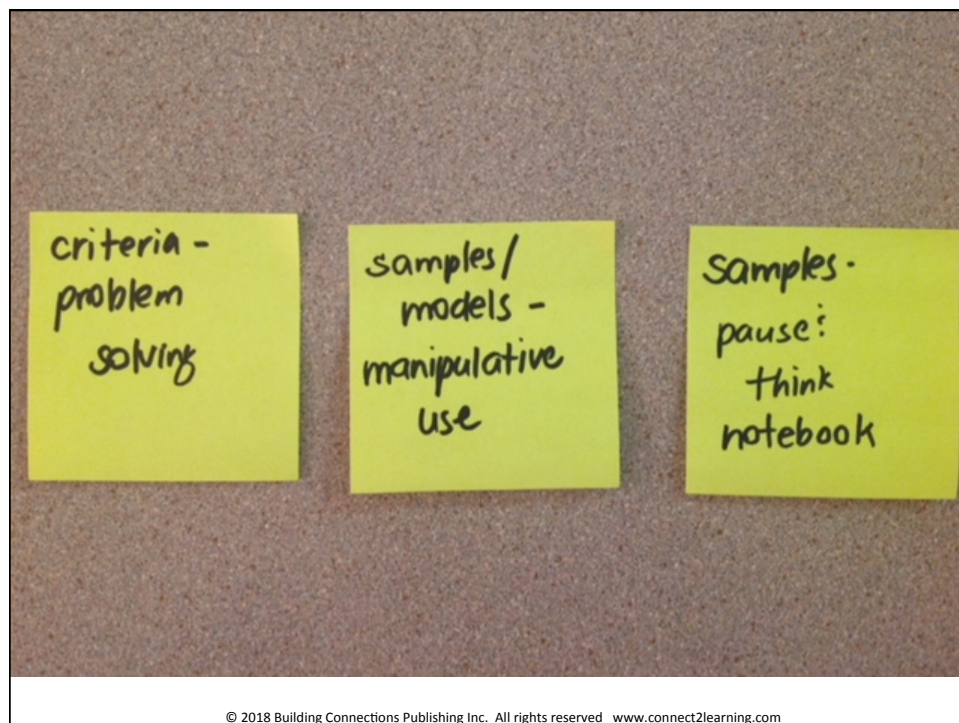
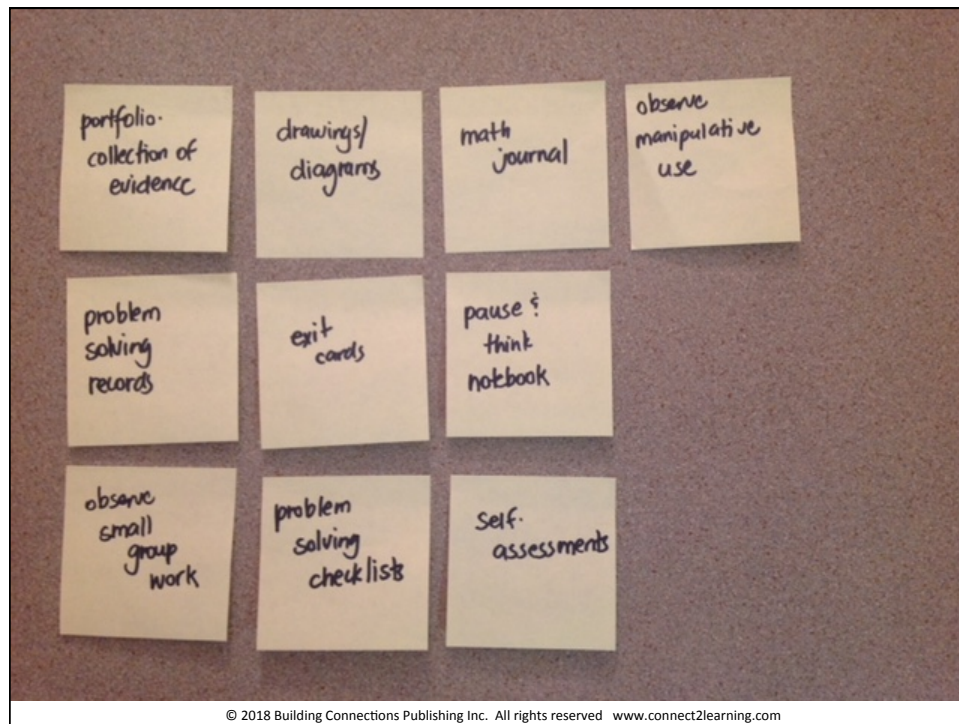
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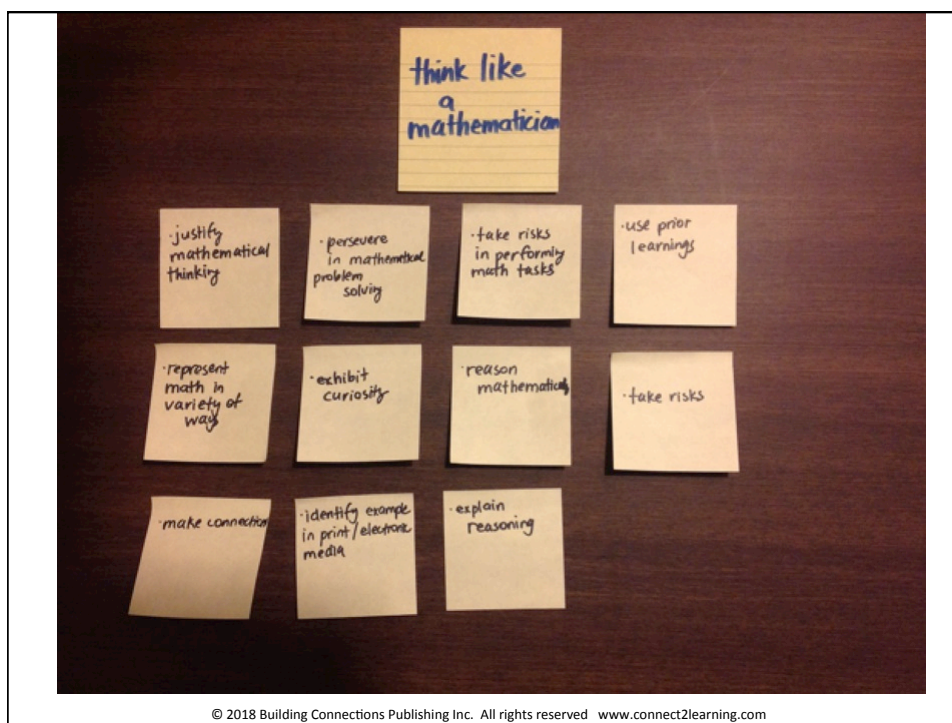
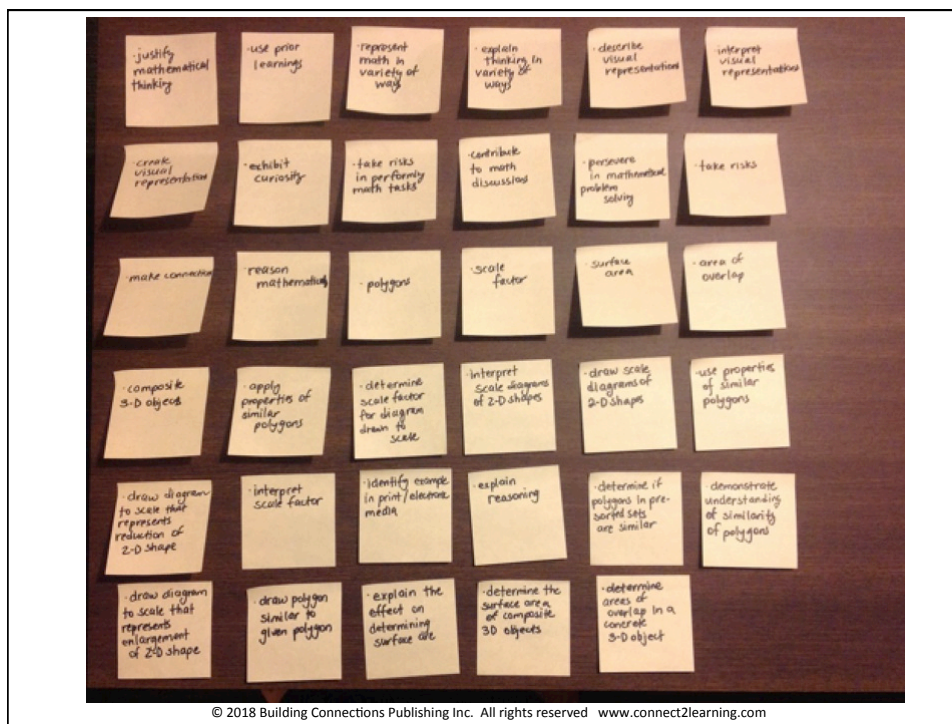




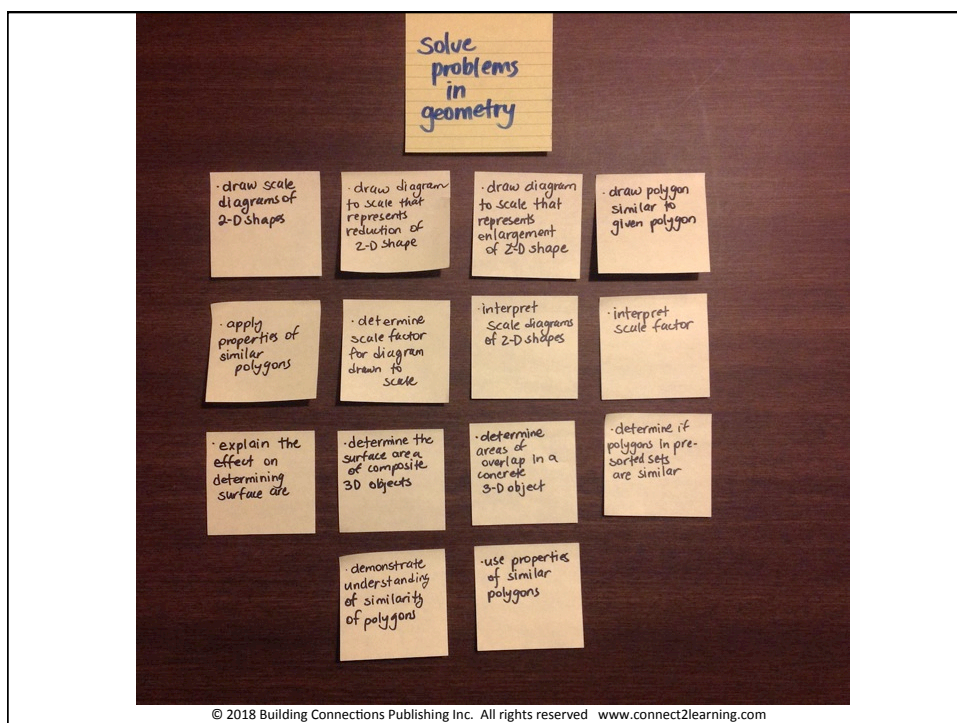
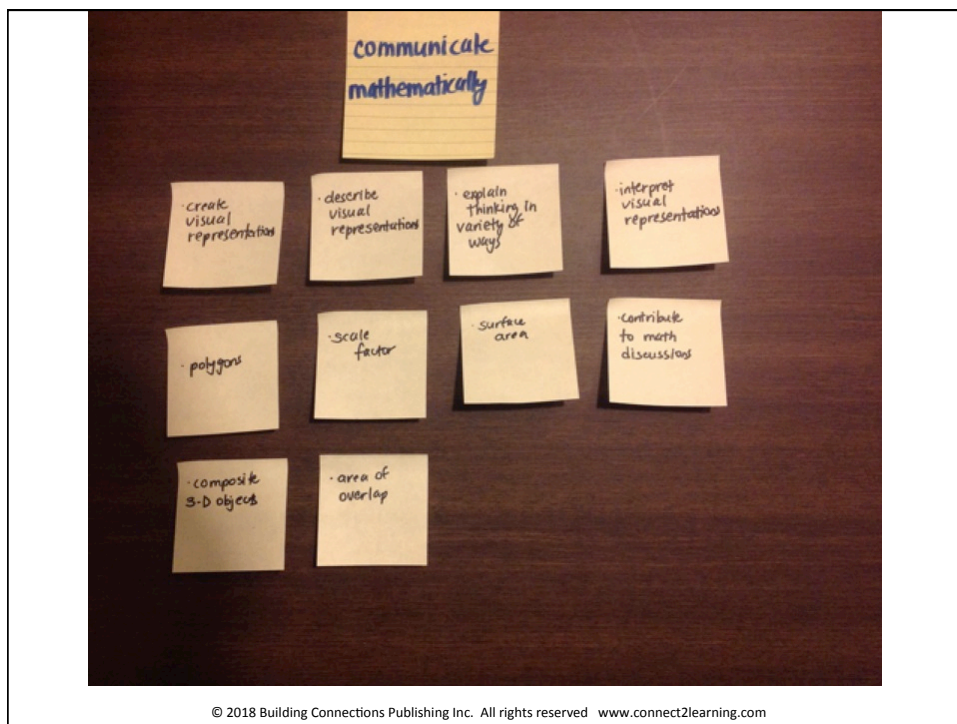


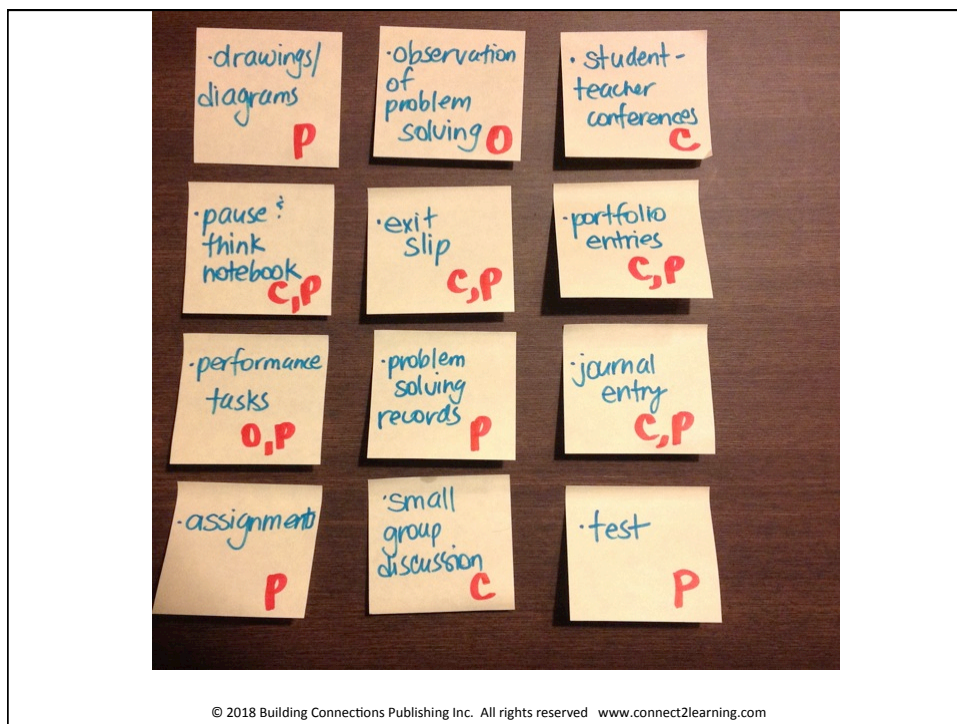






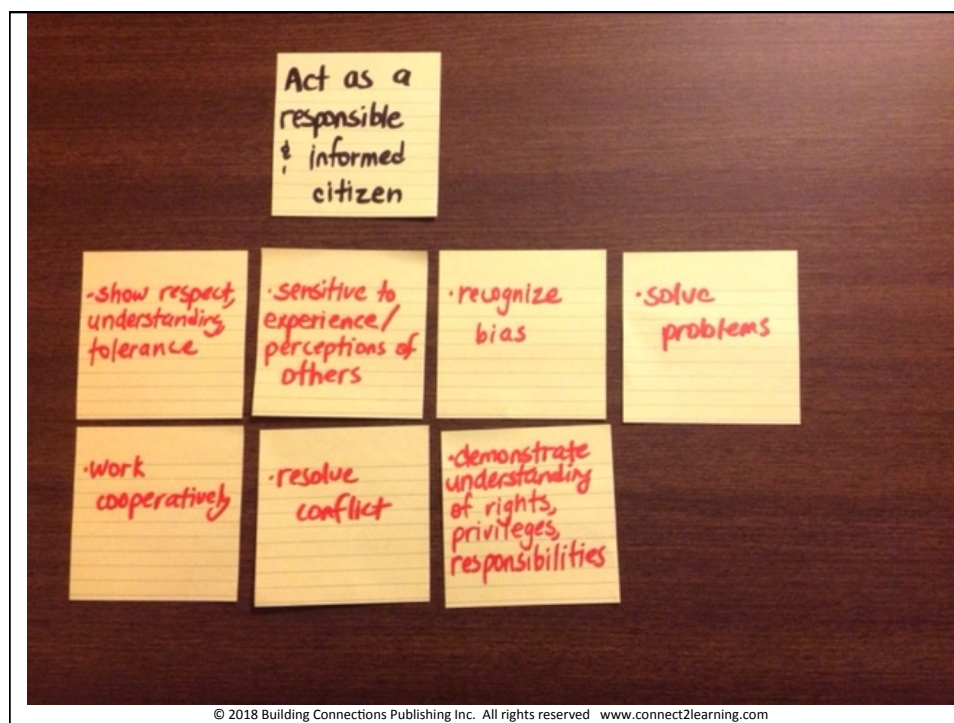






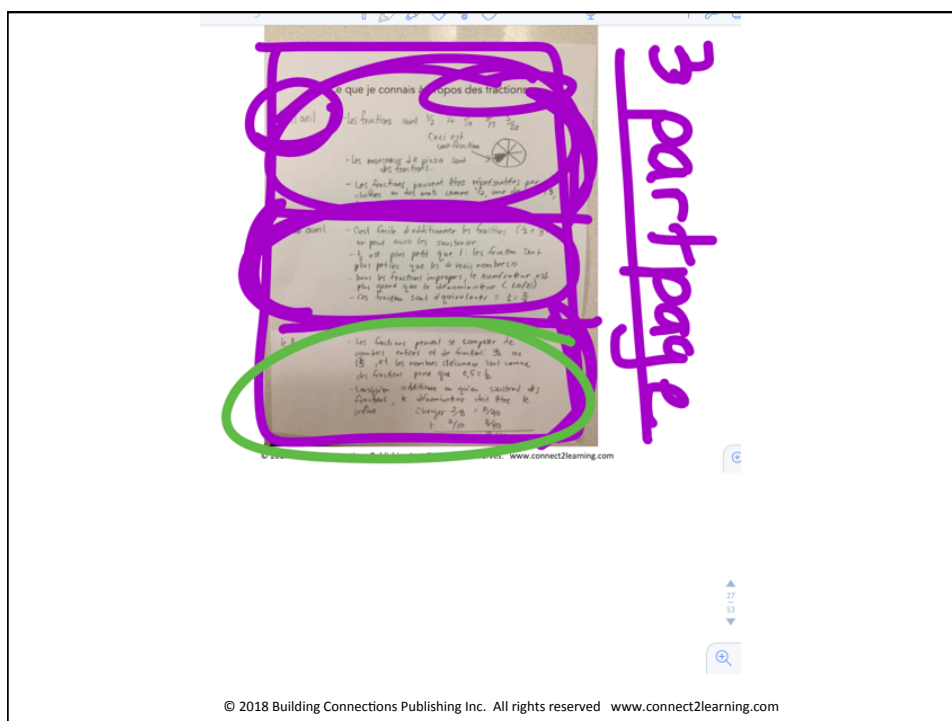












Lavallee ENG 4U Sept 2016

GOOD PLAN				GOOD DATA										GOOD JUDGMENT	
Expectation(s)	Unit/Topic:	Purpose/Type			Achievement			Assessment Mode			Feedback			Final	
		For/As Learning	Of Learning	Excellent Good Satisfactory Needs improvement											
	Assessment Tasks	Diagnostic	Formative	Summative	Process Work	Product	Metacognition	Observations	Conversations	Student Products	Teacher Feedback	Peer Assessment	Self-Assessment	Approx. Weight	
	Editorial														
	Lit Circle Creative														
	Media Critique														
	Oral Presentation														
	Debate														
	Reading Conferencing Over semester														
	Reading Notebook Entries (Term 1)														
	Reading Notebook Entries (Term 2)														
	Writing Notebook Entries (Term 1)														
	Writing Notebook Entries (Term 2)														
	Seminar														
	Essay Planning														
	Essay Rough and Outline														
	Documentary Review and Present														
	Final Essay														
	Exam														
Academic Conversations (assessed each month)															
Thinking Skills (assessed each month)															

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## Dialogue: Assessment Strategy



**The presenting teacher responds to these questions:**

- Describe your artifact, including why this was the strategy, idea, or concept that you chose to apply from the last session?
- In what ways does your artifact connect to curricular expectations?
- What did you notice about the use of this strategy on your students' learning?
- As a result of applying this strategy, idea, or concept, what have you learned?
- What refinements might you make another time?

**Colleagues respond after the above questions have been answered:**

- What additional questions do you have for your colleague?
- What might you take from your colleague's work that will impact your thinking or action?

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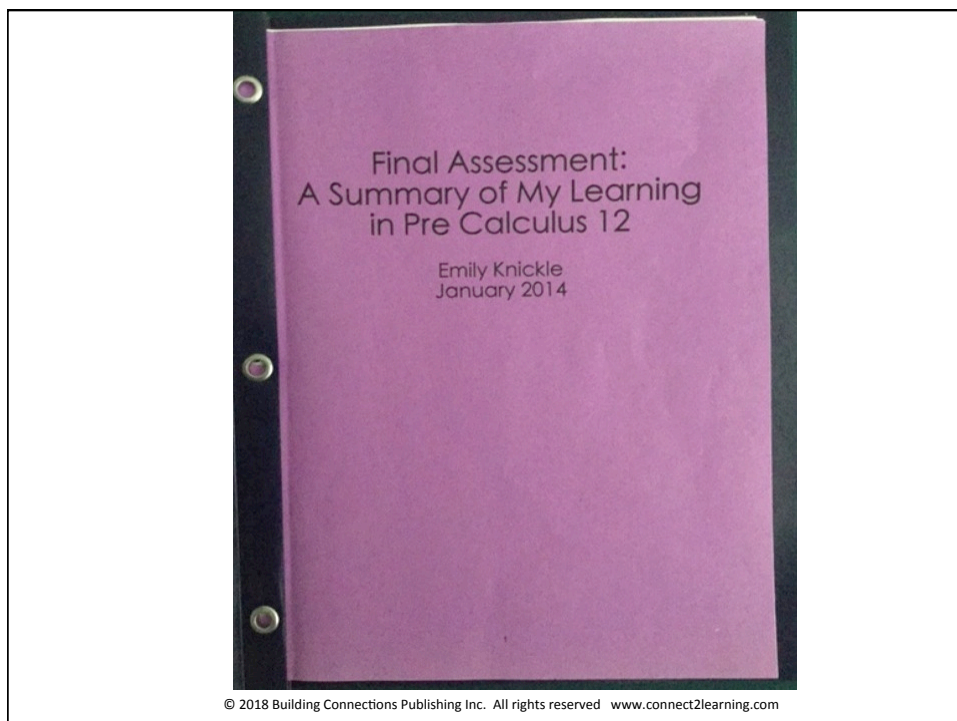
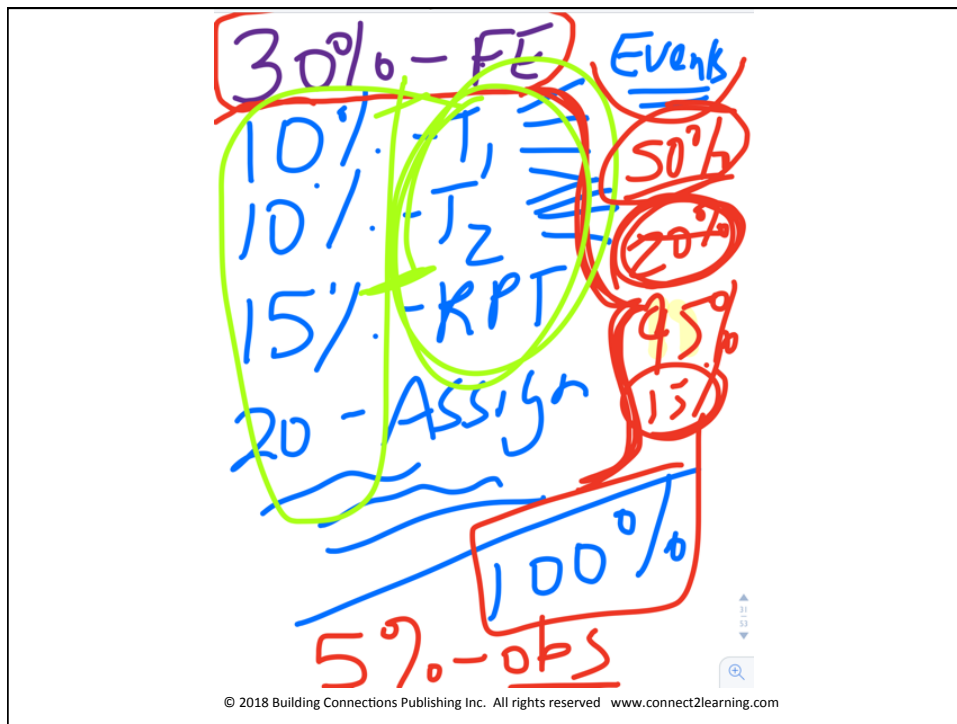




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**Unit 4: Logarithms**

**Processes Used:**

a) Mental Math and Estimation

I did these exercises without a calculator, and without writing down any separate work. In this way, the logarithmic calculations were all done mentally.

b) Communication

I found problems like this one extremely difficult to complete. Therefore, I relied on communication with my friends and teacher to get to the end of the question and eventually learn how to do them independently.

**LOGARITHMS TO THE BASE 2**

Logarithms are the inverse of exponential functions. Following are logs you can find without the calculator.

Check to see if you can find the value of each log.

Check to see if you can find the value of each log.

$\log_2 2 = 1$	$2^1 = 2$
$\log_2 4 = 2$	$2^2 = 4$
$\log_2 8 = 3$	$2^3 = 8$
$\log_2 16 = 4$	$2^4 = 16$
$\log_2 32 = 5$	$2^5 = 32$
$\log_2 64 = 6$	$2^6 = 64$
$\log_2 128 = 7$	$2^7 = 128$
$\log_2 256 = 8$	$2^8 = 256$
$\log_2 512 = 9$	$2^9 = 512$
$\log_2 1024 = 10$	$2^{10} = 1024$
$\log_2 2048 = 11$	$2^{11} = 2048$
$\log_2 4096 = 12$	$2^{12} = 4096$
$\log_2 8192 = 13$	$2^{13} = 8192$
$\log_2 16384 = 14$	$2^{14} = 16384$
$\log_2 32768 = 15$	$2^{15} = 32768$
$\log_2 65536 = 16$	$2^{16} = 65536$
$\log_2 131072 = 17$	$2^{17} = 131072$
$\log_2 262144 = 18$	$2^{18} = 262144$
$\log_2 524288 = 19$	$2^{19} = 524288$
$\log_2 1048576 = 20$	$2^{20} = 1048576$

Logarithms: Based on the given base, if

$\log_2 8 = 3$  then  $2^3 = 8$

$\log_2 16 = 4$  then  $2^4 = 16$

$\log_2 32 = 5$  then  $2^5 = 32$

$\log_2 64 = 6$  then  $2^6 = 64$

$\log_2 128 = 7$  then  $2^7 = 128$

$\log_2 256 = 8$  then  $2^8 = 256$

$\log_2 512 = 9$  then  $2^9 = 512$

$\log_2 1024 = 10$  then  $2^{10} = 1024$

$\log_2 2048 = 11$  then  $2^{11} = 2048$

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$\log_2 131072 = 17$  then  $2^{17} = 131072$

$\log_2 262144 = 18$  then  $2^{18} = 262144$

$\log_2 524288 = 19$  then  $2^{19} = 524288$

$\log_2 1048576 = 20$  then  $2^{20} = 1048576$

Units 5 and 6:  
Trigonometry

Processes Used:

a) Connections

While working on this area of trigonometry I drew on my prior learning of the Pythagorean Theorem to find the side lengths of right angle triangles, so I could then find their individual trigonometric functions.

b) Visualization

In this lesson we used visualization to develop a better understanding of the arc length formula. We learned that when the arc length equals the radius, the angle is one radian. We visualized this by cutting a piece of string to form the arc and drawing out a diagram on a piece of paper.

Handwritten notes and diagrams include:

- Pythagorean Theorem:  $a^2 + b^2 = c^2$
- Trigonometric functions:  $\sin \theta = \frac{1}{\sqrt{16}}$ ,  $\cos \theta = \frac{5}{\sqrt{26}}$ ,  $\tan \theta = \frac{1}{5}$
- Diagram of a right triangle with sides 1, 5, and hypotenuse  $\sqrt{26}$ .
- Diagram of a circle with radius 1 and arc length 1, labeled "1 radian".
- Diagram of a right triangle with sides 3, 4, and hypotenuse 5.
- Diagram of a right triangle with sides 3, 4, and hypotenuse 5, with angles labeled.
- Diagram of a circle with radius 1 and arc length 1, labeled "1 radian".
- Diagram of a right triangle with sides 3, 4, and hypotenuse 5, with angles labeled.

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Final Reflection Questions

- I would like this common assessment to be worth 20% of my final mark.
- Why did you chose to take this course?  
I chose to take this course because I knew I was capable of the level of work that it involves, and I was reasonably confident that I could get a good final mark. I also wanted to continue with pre calculus to leave more options open to myself for the future.
- Which chapters did you find the easiest to learn and why?  
I found the chapter on polynomials easiest to learn. Maybe this is because I was already familiar with the concepts of factoring and finding zeros. I was also comfortable with graphing.
- What were your goals for the year? What did you do in order to achieve them?  
If you did not achieve your goals, what would you do differently to achieve them?  
My goals for this year were to finish the course with an A and make sure I have a good understanding of all the concepts covered, even if I am not continuing on to calculus next semester. In order to achieve them I did my homework and asked for help when I needed it. I also tried to keep myself from getting frustrated when something was harder to grasp.
- Explain how you learn mathematics best. What type of class activities facilitated this learning?  
I think I learn mathematics best when taught a lesson where I can record notes and think through what is being demonstrated. The recording helps me stay engaged and think ahead about what is supposed to happen next. After I am taught a basic concept, I can usually expand what I have been taught and solve other problems.
- Did you find using the Mickelson Student Workbook useful as a resource for the Pre Calculus 12 course? Why or why not?  
I did find the Mickelson workbook a useful tool for practicing what I had learned, however I found the notes at the beginning of all the chapters difficult to follow and comprehend.
- In what ways was selecting samples of your work for the common assessment beneficial to you as a learner?  
Selecting samples of my work was beneficial to me as it helped me to consider what sort of processes I am using when I am working through a math question. I did not ever really consider that there are different ways in which people learn math, and that when combined they produce a larger awareness of all mathematical concepts.

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I Like To Read.  
Because it is Fun!



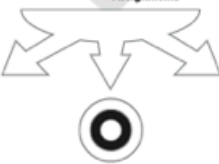
I used to... write only one idea for my reader.

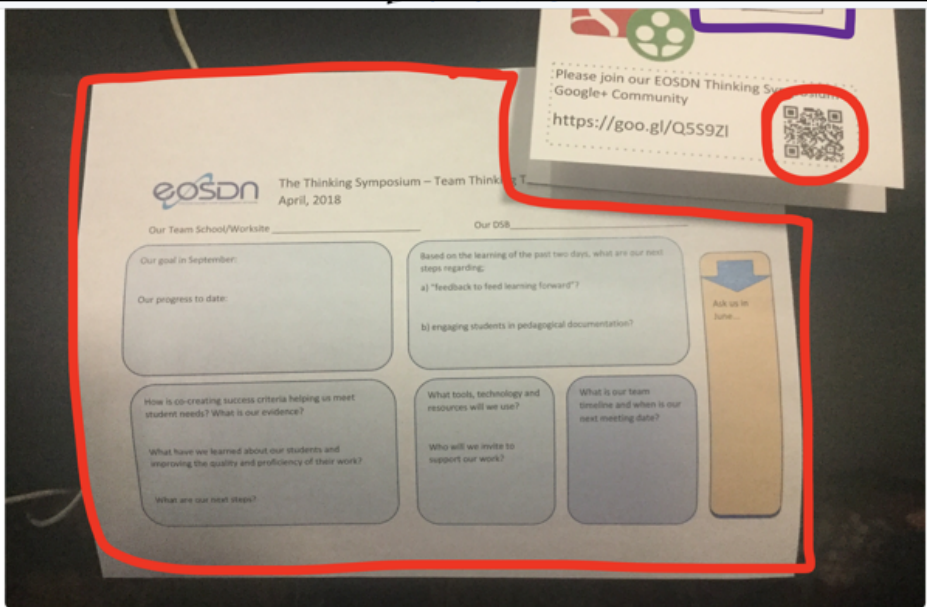
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I like Singing because  
because it gives me  
a good EXERCISE for  
my ~~muscles~~ it helps  
~~me~~ me stay calm and  
relax. I like to  
Sing because I Sing  
~~to~~ at home my  
Home

Now I... have 3 ideas for my reader! I am making it more interesting by having more details. I use juicier words too. Like exercise, calm and relaxed.

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Assessment of Learning (Example)		
<p>Mathematics</p> <div style="text-align: center;"> <p>Self-Assessments    Portfolios</p> <p>Notebooks    Websites    Projects</p> <p>Quizzes    Presentations</p> <p>Group Work    Assignments</p>  </div> <div style="text-align: right;"> <p>What is the Pattern?</p> <p>What is the Trend?</p> </div>		
<p>Student evidence consistently and independently demonstrates the student...</p> <ul style="list-style-type: none"> <li>Understands and applies mathematical concepts being studied (evidence includes work samples, discussions, conferences, tests, quizzes, class work and demonstrations)</li> <li>Articulates clear understanding of mathematical concepts and gives everyday examples of use [evidence includes performance tasks, self-assessments, reflections, journal entries and teacher observations]</li> <li>Works effectively by self and with others [see criteria and rubrics used]</li> <li>Uses mathematical 'habits'</li> </ul>	<p>Student evidence consistently and independently demonstrates the student...</p> <ul style="list-style-type: none"> <li>Understands and usually applies mathematical concepts being studied (evidence includes work samples, discussions, conferences, tests, quizzes, class work and demonstrations)</li> <li>Needs support to articulate understanding of mathematical concepts and give everyday examples of use [evidence includes reflections, journal entries and teacher observations]</li> <li>Works effectively by self and with others most of the time [see criteria and rubrics used]</li> <li>Uses mathematical 'habits'</li> </ul>	<p>Student evidence consistently and independently demonstrates the student...</p> <ul style="list-style-type: none"> <li>Shows a growing understanding of mathematical concepts being studied and applies them with support [evidence includes work samples, discussions, conferences, tests, quizzes, class work and demonstrations]</li> <li>Articulates a growing understanding of mathematical concepts and is able to occasionally give everyday examples of use [evidence includes performance tasks, self-assessments, reflections, journal entries and teacher observations]</li> <li>Works effectively by self and with others with support [see criteria and rubrics used]</li> <li>Is beginning to use mathematical 'habits'</li> </ul>
<p>Common assessment scores: 4</p> <p>All tests and quizzes: 93% - 100%</p>	<p>Common assessment scores: 3 or 4</p> <p>All tests and quizzes: 85% - 92%</p>	<p>Common assessment scores: 2 or 3</p> <p>All tests and quizzes: 72% - 84%</p>



Please join our EOSDN Thinking Symposium Google+ Community  
<https://goo.gl/Q5S9ZI>

**EOSDN** The Thinking Symposium - Team Thinking April, 2018

Our Team School/Worksite \_\_\_\_\_ Our DSB \_\_\_\_\_

Our goal in September: \_\_\_\_\_

Our progress to date: \_\_\_\_\_

Based on the learning of the past two days, what are our next steps regarding:

a) "feedback to feed learning forward"?

b) engaging students in pedagogical documentation?

How is co-creating success criteria helping us meet student needs? What is our evidence?

What have we learned about our students and improving the quality and proficiency of their work?

What are our next steps?

What tools, technology and resources will we use?

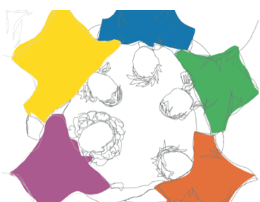
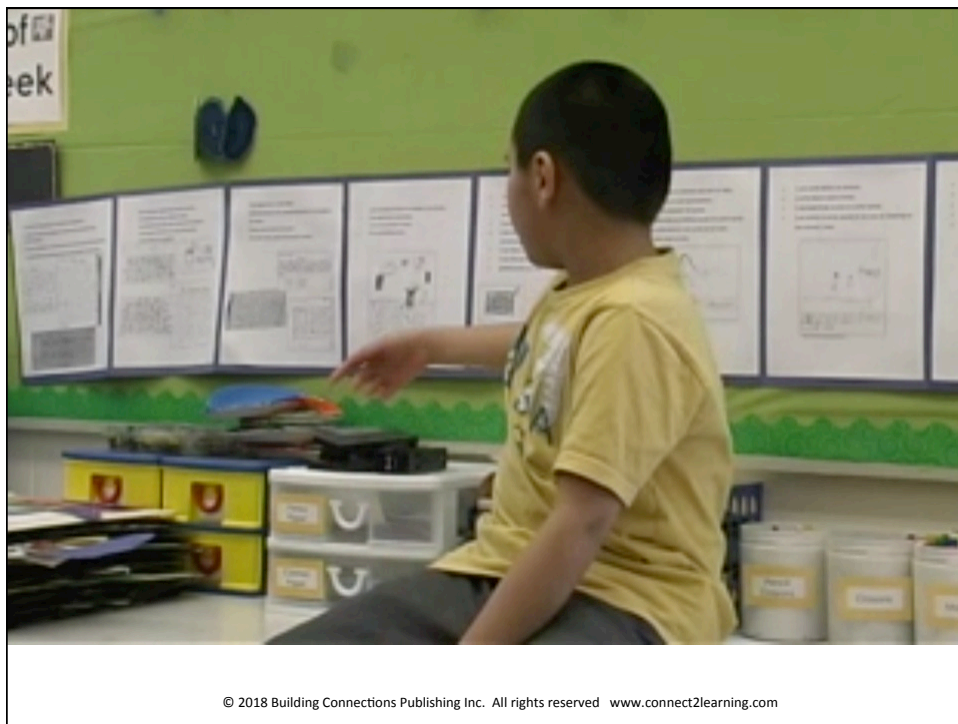
Who will we invite to support our work?

What is our team timeline and when is our next meeting date?

Ask us in June...

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**Thank you!**

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[@Sandra\\_Herbst](https://twitter.com/Sandra_Herbst)

*You can read my blog at*  
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