

# **Sound Assessment Practices in Mathematics Webinar**

September 25, 2015 p.m.

Led by Dr. Chris Suurtamm

## Chat Compilation

### **Assessments you have observed being used in mathematics teaching and learning**

Staci Marck: PRIME

Sonia: CBM

Teri Brunner: Numeracy Nets with interviewing

Brian Playfair: Do the Math

Cheryl Fowler: ONAP

BHNCDSB: Taking pictures then have students explain thinking

Teri Brunner: SENA

diane: interviewing, portfolio

Avon Maitland DSB: leaps and bounds, gap closing,

Angela Wintar: MARS Classroom challenges

Shelly Corlyon: anticipation tracking sheets, investigations, discussions

Debra: Brainstorming on how to use the math in the community.

Teri Brunner: teacher created questions

Ottawa Catholic SB: pedagogical documentation

Angie Barrese: conferences, observation, taking pictures, explain everything app,  
show me

Heather Young: Numeracy Nets here too; thinking routines; student conversations

Shelly Corlyon: observations, taking pictures

TNCDSB team: Checklists, anecdotal observations, student discussions, inquiry  
tasks, portfolios

Shelly Corlyon: videos

Jacqueline P.: number talks

Shelly Corlyon: number strings

Jacqueline P.: math games

Ben:Phil: Youcubed resources (week of inspirational math)

Heather Young: congress discussions

diane: iPad video and audio demo of math  
 LDSB Donica LeBlanc: Working with staff to develop assessment tools that provide an opportunity to expose the "typical" misconceptions.....to develop teacher content knowledge too  
 Teri Brunner:authentic problem solving  
 Ottawa Catholic SB: peer assessment, clicker,  
 Scott Armstrong: Exit Ticket  
 TNCDSB team: Student samples, rubrics, pedagogical documentation frameworks  
 Sonia: kahoot it  
 BHCNDSB: Display of students working through problem accompanied by quotes  
 Scott Armstrong: clickers  
 Shelly Corlyon: co-creating success criteria  
 Eileen wise: IPAD and explain everything  
 Ottawa Catholic SB: plickers (instead of clicker)  
 Margarete cameron, LNS: Deconstructing student responses to determine where they've "gone wrong"; what their potential misconceptions are.  
 TNCDSB team: Conferencing, guided math, peer feedback  
 Shelly Corlyon: questioning  
 LDSB Donica LeBlanc: Educreations, explain everything  
 Ottawa Catholic SB: classroom discussion  
 Brian Playfair: ditto for Leaps and Bounds, Gap closing, and explain everything

## How would you assess this expectation?

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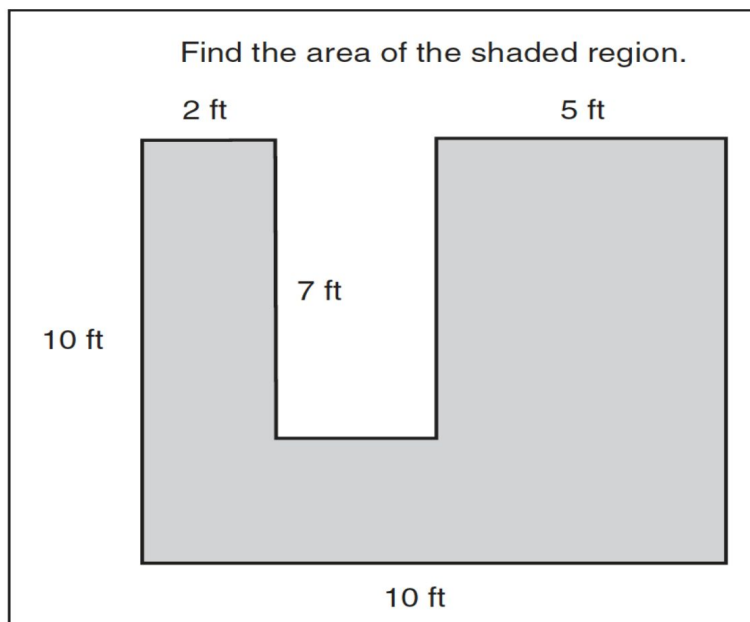
Students will:

- create and analyse designs involving translations, reflections, dilatations, and/or simple rotations of two-dimensional shapes, using a variety of tools (e.g., concrete materials, Mira, drawings, dynamic geometry software) and strategies (e.g., paper folding) (Sample problem: Identify transformations that may be observed in architecture or in artwork[e.g., in the art of M.C. Escher].);(Grade 7, Geometry and Spatial Sense)

Teri Brunner: Through art work followed up by a conference  
 Shelly Corlyon: create a model  
 Brian Playfair: use tracing paper to capture translations and reflections  
 Scott Armstrong: observations and products created  
 Phil: creation of products using Geometer's Sketchpad

Shelly Corlyon: a design plan  
Shelly Corlyon: create art  
Ottawa Catholic SB: videotape students (explaining their thinking)  
Teri Brunner: teach it to others, buddies, mentoring  
LDSB Donica LeBlanc: sorting multiple images  
Sonia: construct or deconstruct are designs and re-create new designs  
Ottawa Catholic SB: show me + describing  
Teri Brunner: explain everything  
Shelly Corlyon: gallery walk of people's design and come up with questions to ask the students  
Shelly Corlyon: explain their design  
Sonia: games where students have to use verbal description to create a partner's design  
Heather Young: representing in a variety of ways, cross-curricular approach, through conversations when objects are manipulated  
Teri Brunner: math congress  
Brian Playfair: use real life problems eg. patio stones etc.  
Janice Ellerby: architecture study and drawings  
Shelly Corlyon: explain  
Ottawa Catholic SB: have students "act out" - it becomes a drama piece!  
Sonia: design a math trail  
LDSB Donica LeBlanc: geometry battleship game  
Ottawa Catholic SB: having students analyze each other's creations  
BHNCD SB: Half of the solution is given, and students would have to use their thinking, knowledge and understanding to complete the other half  
LDSB Donica LeBlanc: Is there a good mathies tool on the Edugains site?  
Heather Young: student choice on how to share understanding (increase engagement)  
Ottawa Catholic SB: use a math carpet  
Teri Brunner: take them outside and create things in nature followed by discussion about what they've done  
Avon Maitland DSB: printmaking activity  
Shelly Corlyon: great nature idea and idea of a discussion/follow-up Teri

## Suggestions for a modified task



Task from Hunsader, et al. 2014, p. 209

Ottawa Catholic SB: first - help students make connections to the "real world"

David Bennett: Change it to a "real world" word problem for them to solve

Shelly Corlyon: Remove the numbers and ask them to assign their own numbers and find their own area

Angie Barrese: Change the prompt to reflect something more meaningful to the students

Brian Playfair: continue with the patio stones idea, or a backyard pool with a different shape

Shelly Corlyon: give them the total area of the shaded region and ask them to determine possible side lengths

BHNCDSB: Identify different methods of solving and reflect on which they feel is the best method

Sonia: How many sections of carpet do you need to purchase? If the van has a storage length of 6 feet, can all the pieces fit in the van?

Shelly Corlyon: give them number of patio stones and have them design a patio around a deck

Ottawa Catholic SB: remove all words, perhaps leave the numbers - and ask students what the task could be?

Avon Maitland DSB: change it up, provide less info to force them to show their thinking

christie trialonis: Create a real life problem that students may relate to and be challenged to solve (i.e., eco initiative at school to build a learning garden with those dimensions).

Teri Brunner: As a real world problem -If this is a playground and we have to fit in a number of defined areas of equipment, prove that it would fit (problem solving, communicating, reasoning and proving)

Ottawa Catholic SB: giving two answers - have students work through it

LDSB Donica LeBlanc: Add dividing lines, say it's a playground & ask them to determine how much of the material is required for each section (sod, asphalt etc.) & what percentage of the entire playground each area is...price for each, which material is the best choice considering use, cost etc. (connecting, communicating, reasoning)

Phil: Have student explain his/her answer to another student who plays the skeptic and tries to disprove the answer (reflecting)

Teri Brunner: Scaffold the problem by giving them the first step or two and then ask them to solve. Then prompt them with "How did knowing the first step(s) help you solve the problem"

Phil: Sorry, missed some words there. Have student explain his/ her answer to another student who plays the skeptic.

Shelly Corlyon: create another irregular shape you would see in your world with the same area

Phil: Have students develop own shape, they can choose how difficult the shape is to show their personal highest level of understanding

## Best Practices

Brian Morgan: multiple opportunities to demonstrate learning

Avon Maitland DSB: conferencing, guided math, student led conferences, peer conferences,

David Bennett: use of electronic games such as Prodegy

Ottawa Catholic SB: perhaps a better term is effective practices

Jacqueline P.: When you are able to see a variety of assessment types happening

Brian Morgan: lots of time for math talk

Cheryl Fowler: rich problems collaboratively created by/for students

Heather Young: - using all areas of the achievement chart in assessment

Heather Young: professional learning IN the classroom

Brian Playfair: Similar to the eg. just shown in the grade 10 class, my intermediate teachers use what they call a "Mathematics Survival Guide" where students track

their own achievement, and record strategies that they and the teacher have put in place to advance their progress.

Jacqueline P.: Gathering of a variety of artifacts

Shelly Corlyon: flipped classroom

Shelly Corlyon: use of the 5 practices - consolidation of learning goals with the students

christie trialonis: working with and learning from mistakes as springboards to math discussions

Shelly Corlyon: growth mindset

Avon Maitland DSB: positive math culture

Ottawa Catholic SB: looking at triangulation of data

Debra: Folding Math instruction in with other content areas like Social Studies and Language.

Scott Armstrong: promoting growth mindset

Shelly Corlyon: Effective questioning to get at the thinking

Shelly Corlyon: valuing errors

Danielle Blair: culturally embedded and responsive

BHNCDSB: allow teachers to take risks in adopting alternative approaches

Shelly Corlyon: honouring student voice

christie trialonis: creating 'safe' environments for math explorations

Shelly Corlyon: instructional leadership

Avon Maitland DSB: discussing misconceptions and using reasoning and proving

## Challenges

TNCDSB team: Student self assessment

christie trialonis: moving from closed to growth mindsets

Scott Armstrong: assessments that are fair

Heather Young: - having all teachers move along the journey... getting away from pencil paper tasks and tests

Avon Maitland DSB: need to unpack the expectations, complexity in the consolidation, difficult to overcome classroom culture in some cases

Jacqueline P.: Setting up classroom management and routines to allow for ongoing conferencing

TNCDSB team: effective use of assessment AS learning....

Avon Maitland DSB: teacher comfort, education - how they feel about math, and their comfort level with teaching it

Shelly Corlyon: Teacher fluency can be a challenge

Cheryl Fowler: need to have a "number" for report cards; how to explain to parents

Ottawa Catholic SB: perception of "lack of time"

LDSB Donica LeBlanc: Strategies to capture observation notes & pull it all together (love the OCDSB tool)

Avon Maitland DSB: parent support - knowing how to support students at home

Cheryl Fowler: teacher fear... "I'm not good in math"

Jacqueline P.: Software that is user friendly to gather and organize assessment documentation

Avon Maitland DSB: Reporting obligations - siloed math into strands - sometimes gets in the way

Shelly Corlyon: growth mindset

LDSB Donica LeBlanc: Gathering & going through the student thinking in Explain Everything when you haven't been there....although, you'd mark student work in the past

Jacqueline P.: parent expectations of tests and exams

Shelly Corlyon: challenge is the closed mindset

Danielle Blair: misguided understanding of what accountability looks like

BHNCDSB: limited number of approaches

Ottawa Catholic SB: looking for the thinking VS looking for the answer

LDSB Donica LeBlanc: Time is always a challenge but helping people understand that it's more about the time management during more open/less traditional tasks

Ottawa Catholic SB: assessing process VS assessing product

Shelly Corlyon: making the documentation pedagogical

## What have you done?

Scott Armstrong: expand our 5 Practices work

Janice Ellerby: provided release time to work with Math Resource Teachers to work through new ways to approach assessment

Jacqueline P.: Collaborative inquiries - encourage deeper understanding of effective math practices in action

Avon Maitland DSB: encouraging people to do less better - focus on rich tasks

Angela Wintar: release time for teachers to plan together

Brian Playfair: provide multiple opportunities for teachers to collaborate around their use of assessment for learning

Angela Wintar: brought in math consultants to plan assessments

Ottawa Catholic SB: OCSB has done a lot of intentional grouping of teachers to look at/deconstruct student work (teacher moderation)

TNCDSB team: CILM sessions

Avon Maitland DSB: provide opportunities for staff members to support one another through release, coverage

Debra: Staff Book Club reading "Number Talks" Good discussion.

Janice Ellerby: included in the SSSSI ministry initiatives

Avon Maitland DSB: math coach -

Shelly Corlyon: Building capacity with administrators

David Bennett: I will ask teachers what opportunities their student have to explain/demonstrate their thinking and how to they provide descriptive feedback to them

Cheryl Fowler: bring student work to staff meetings to dialogue together

Brian Playfair: book clubs on different teacher resources

Phil: I used PD funds to allow a group of teachers to take the "How to Learn Math for Teachers and Parents" course through Stanford University with me.

Heather Young: 4C sessions (co-plan; co-teach- co-debrief; co-reflect) as a team of teachers (going into a classroom)

Shelly Corlyon: co planning, co-teaching, digging into the curriculum, moderating student work, anticipating student responses collaboratively

Teri Brunner: PLCs to develop a deeper understanding of pedagogy, curriculum and math processes

TNCDSB team:paid AQ courses in mathematics

Ottawa Catholic SB: encourage the triangulation of data

Phil: Secondment time to allow teachers to plan with instructional coach

Avon Maitland DSB: have conversations about how we view products, ways that we monitor understanding

Shelly Corlyon: the learning is in the classroom

Heather Young: Learning about ways to differentiate the instruction/tasks based on student need (meeting needs of each student)

Beth: collaboration time, alleviate fears of professional judgement to encourage a variety of assessment strategies

Brian Playfair: Board created Instructional Coach position to work with Math PLC's

Teri Brunner: spending time to look at verbs in curriculum to ensure we are assessing for understanding and not just representing

Avon Maitland DSB: abundance of technology - need to make good use of the opportunities that exist - develop capacity and support students and staff with this

Avon Maitland DSB: support reflection on practice and content

Ottawa Catholic SB: encourage teachers to slow down/notice student work/at work

Avon Maitland DSB: providing a platform for staff to share best practice - alignment

Scott Armstrong: intentional and deep work in focus schools

Teri Brunner: prompting teachers to look at what students already know and where the gaps are - giving them time to moderate work together

christie trialonis: school wide approach of teaching the same math strands at the same time; display learning in hallways for all students/staff to see progression of a strand throughout the grades (becomes the third teacher)

Avon Maitland DSB: taking risks surrounding mindset

Ottawa Catholic SB: emphasizing - marking gets in the way of learning

Phil: support the focus on math actively - running math club



Danielle Blair: used ex. Voice Threads to build student AND teacher capacity in giving meaningful/timely feedback and opportunity for students to incorporate work in response to feedback provided

Brian Playfair: Focus in staff meetings last year on Math process expectations and unpacking how to incorporate them into both formative and summative assessments

Ottawa Catholic SB: making connection between assessment and instruction

Teri Brunner: looking at cross strand tasks

BHNCDSB: Allowing them to visit other teachers' classrooms to see different assessments