



Ontario's New Focus on Social Emotional Learning:

How This Influences Our Practices

August 14, 2020



Marc Husband – My Math Story

- Former classroom teacher & math coach
- Classroom-based researcher
- TDSB coordinator for elementary math
- I love math & I'm fascinated by students' mathematical thinking and understanding

Our Purpose & Agenda

Let's make social emotional learning (SEL) a more intentional part of our practices

1. What is SEL and how does it fit into the curriculum?
2. A Number Talks example
3. How can we foster SEL skills?

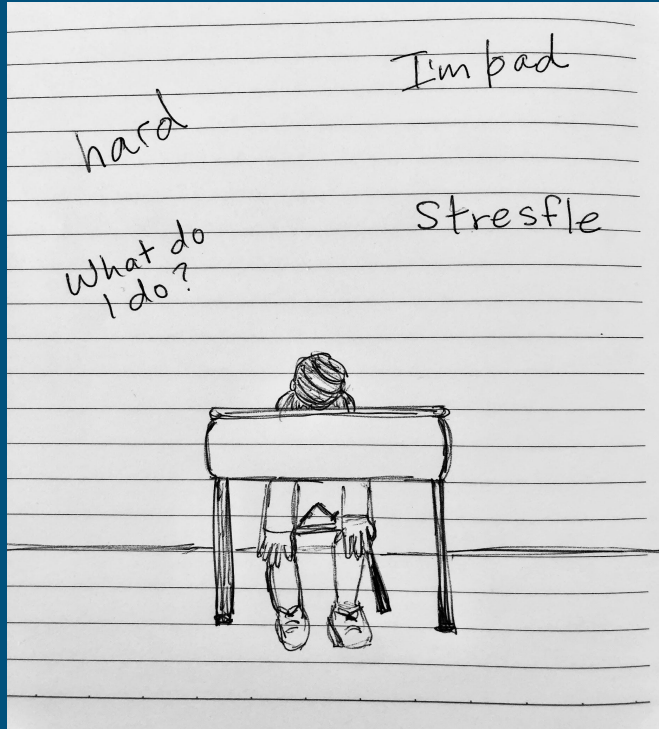
What is SEL?

How students develop their understanding of themselves & their relationships with others – reflected in thoughts, attitudes, feelings, actions

In the new 2020 Curriculum,

- 6 skills to help everyone “develop confidence, cope with challenges and think critically”
- Supports 7 processes
- Infuses teaching actions and class norms

How students may feel about math



Me & Math

Copy of a student drawing

Math Anxiety

(we can be carriers!)

Other Social & Emotional Challenges

Worries, fears, sadness, anger or positive distractions

- Hijack students' abilities pay attention or process situations meaningfully

SEL can support them

- Recognizing, expressing and regulating their emotions so they can think about situations as problems they can solve

Teachers can model and discuss useful strategies in the classroom

Social Emotional Learning Skills

1. Identify and manage emotions
2. Recognize sources of stress and cope with challenges
3. Maintain positive motivation and perseverance
4. Build relationships and communicate effectively
5. Develop self-awareness and sense of identity
6. Think critically and creatively

Value of Social Emotional Learning Skills

Without them...

- Students have barriers to growing math understanding

With them...

- Students can learn and apply math concepts

Using Number Talks as an Example

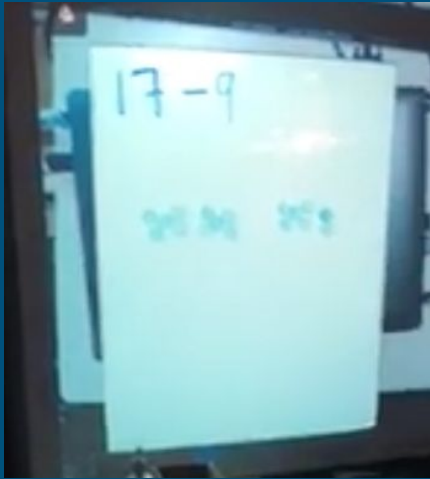
Number Talks - brief group discussions

- Build math fluency
- Facilitated by the teacher
- Focus on student solutions for a mental math question
- Applicable to all grade levels

We are using an example for a primary classroom

- Student-teacher interactions
- Curriculum processes and SEL

Number Talk - Introduction



Teaching actions:

- Pose a question for students to consider: $17 - 9$
- Think/Pair/Share

Process:

- Problem solving
- Communicating

SEL:

- Relationship building
- Safe way to express themselves

Number Talk - Conversation

Teacher: Who would like share an idea?

Student: $17 - 9$ is 8

T: How did you get 8?

S: I got 8. First $17 - 7 = 10$. I know 7 is 2 less than 9 so $10 - 2 = 8$

T: Why did you subtract 7 first?

S: To make it easier

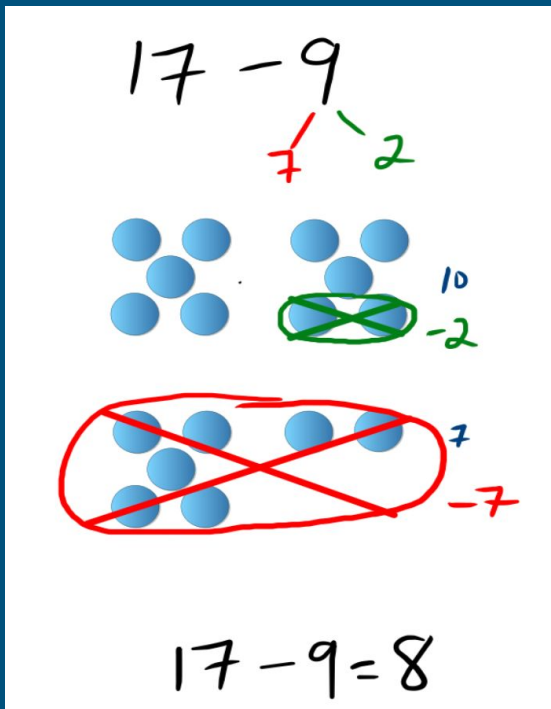
Process:

- Reasoning and proving
- Communicating
- Selecting strategy

SEL:

- Elicit thinking to support math identity

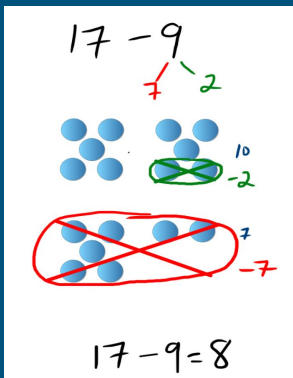
Number Talks - Teacher Makes Students Idea Visible



Teaching action:

- Arrange blue dots in groups of 5
- Show taking away 7, then 2 on the board
- Split 9 into 7 and 2
- Ask: Where's the 7? Where's the 2?

Number Talks - Teacher Makes Students Idea Visible



- Arrange blue dots
- Show taking away 7 and 2
- Split 9 into 7 and 2
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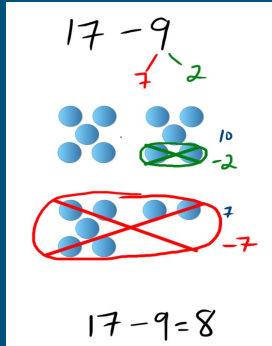
Process:

- Representing
- Selecting tool

SEL:

- Using the student idea supports their math identity

Number Talks - Checking in with Group



- How many of you used this strategy?
- How does this compare to your thinking?
- Did you do something different?

Process:

- Reflecting
- Connecting

SEL:

- Connecting

Number Talk - Conversations about Difference

T: Who did something different?

S: I took away ten instead of 9 and added one back to get 8

T: What number did you get from subtracting 10?

S: I got 7. Then I added one to that because I took away one too many

T: Why did you subtract 10?

S: It was easier

Process:

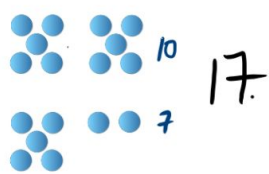
- Reflecting
- Reasoning and proving
- Communicating
- Selecting strategy

SEL:


- Eliciting critical thinking

Number Talks - Teacher Makes Second Student Idea Visible


$17 - 9$



$17 - 10$



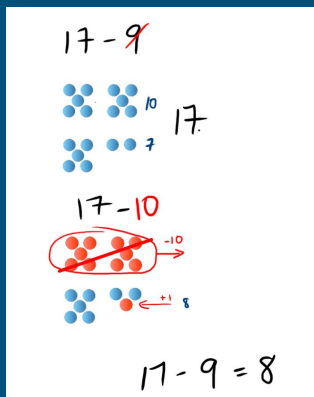
$17 - 9 = 8$



Teaching action:

- Arrange blue dots in groups of 5
- Show taking away 10, then adding 1 back
- Show the one added back

Number Talks - Teacher Makes Second Student Idea Visible



- Arrange blue dots in groups of 5
- Show taking away 10, then add 1 back on the board
- Show the one added back

Process:

- Representing
- Selecting tool

SEL:

- Using the student idea supports their math identity

Number Talk - Making Connections

$17 - 9$

~~7~~ 2

10
-2

7
-7

$17 - 9 = 8$

What connections do you notice?



$17 - 9$

10
7

17

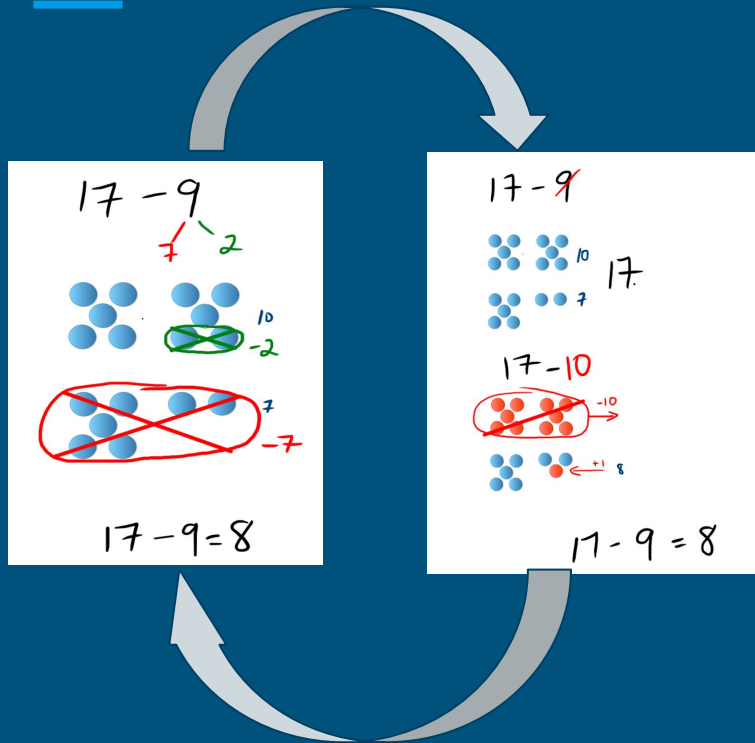
$17 - 10$

-10

+1 8

$17 - 9 = 8$

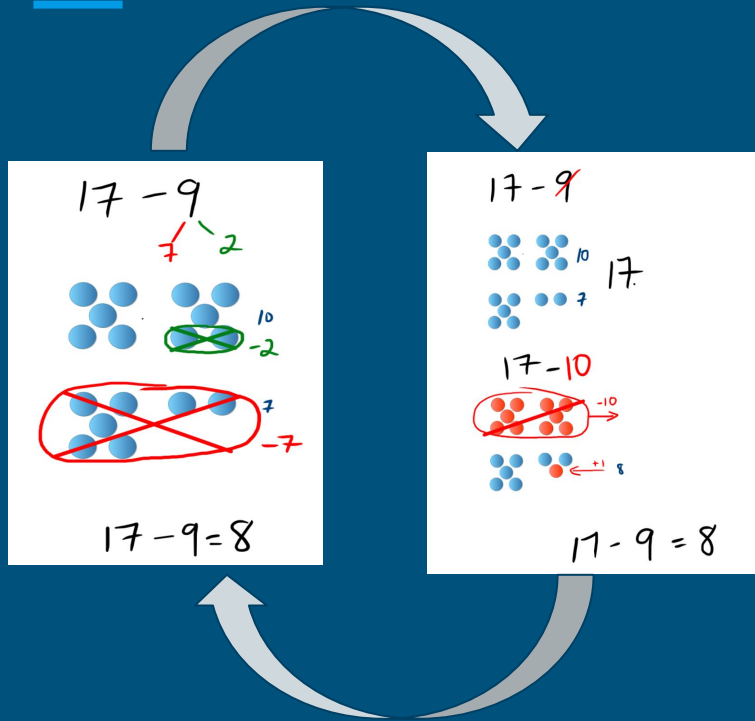
Number Talk - Making Connections



Students Notice Connections:

- Both change the number 9
- 9 is broken down or added to
- Both use friendly numbers
- Both are related to 10

Number Talk - Making Connections



Process:

- Communicating
- Connecting
- Reasoning and proving

SEL:

- Identifying connections and interrelationships

Developing Classroom Norms

Helping students work together to share and clarify ideas, understandings and solution strategies

Classroom Norms - an Example

Let's listen to a teacher establish norms on day 1 of her number talk



And reinforce them on day 2



How Norms Support Student Learning

Messages from audio

- Hands are distracting
- Using thumbs as signals
- Math is about thinking/ideas
- Math takes time
- Math involves working with each other

SEL:

- Self-awareness
- Building relationships and effective communication
- Positive math identity

Creating a Positive Learning Environment

Affirming Student Work

- Using students' ideas as a resource for learning
- Students are doing the work for themselves
- What does it mean to be a math person?

“I can think about numbers in many ways”

SEL:

- Motivating/ persevering
- Building a positive math identity

How SEL Can Influence Our Practices

- Recognize what we're doing already
- Find opportunities to do more
- Use resources, like:

2020 Ontario Mathematics Curriculum, Grades K - 8

Boaler, Munson & Williams (2017). *Mindset Mathematics: Visualizing and Investigating Big Ideas*. Wiley: New Jersey