

**The Literacy and Numeracy Secretariat
Webcast Professional Learning Series**

Viewer's Guide

Through the Eye of the Learner

From Student Work to Teacher Practice

Multi-media resource for professional learning



reach every student



To order the multi-media package

Through the Eye of the Learner: From Student Work to Teacher Practice

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Overview

In this resource you will meet teachers and administrators from a primary and a middle school who formed a learning team to improve their students' learning about mathematics. As a group, they committed to collaboration and inquiry and to new practices such as bansho and co-teaching. Through their joint work, they acquired new insights into how both they and their students learn best.

Powerful learning occurs when teachers take an honest and reflective look at their practice and how it impacts on student learning. Central to this learning is the thoughtful examination of student work. This evidence of learning and understanding informs instructional decisions. When teachers work collaboratively, engage in focused inquiry and become students of teaching and learning, the effects on student learning and achievement are transformative.

“What is the necessary teacher learning that will shape practice in a way that will enable the identified student learning, and how can the network mobilize the resources and expertise to facilitate this learning?”

**STEVEN KATZ, LORNA EARL AND
SONIA BEN JAAFAR**

Challenging long-standing beliefs and behaviours is difficult and requires a personal disposition and open-mindedness to learning, re-learning and change, as well as an environment conducive to risk-taking (Hattie, 2009). Making practice visible and learning together and on behalf of one another deepens understanding of how students learn and what effective practice looks like.

As Linda Darling-Hammond says, “Teacher quality exerts greater influence on student achievement than any

other factor in education – no other factor even comes close” (Darling-Hammond, 1999). Strategies like co-teaching, bansho and lesson study throughout the teaching-learning cycle allow teachers to learn about effective instructional practices. Immediate action-oriented feedback impacts on student learning (Moss & Brookhart, 2009).

Teachers who genuinely believe that all students can learn are aware of students who are struggling and take immediate action to support their learning. They monitor the effectiveness of their strategies and are prepared to change practice

as needed to support student learning and achievement. An open-to-learning disposition allows teachers to question current practices and search out new ways to reach every student.

What you will find in this resource ...

The teachers in this video have used current data from their schools to establish an inquiry focus on improving instruction in mathematics. This resource follows their journey as they collaboratively design a problem, plan the lesson and do the math. The teachers think about solving problems from the perspective of their students and predict how students might arrive at solutions. They also predict and discuss what they might observe during the classroom visits.

After a short context-setting conversation, the teacher teams visit two classrooms. The teams meet after each visit and debrief what they have observed. The dialogue is respectful, honest and open to learning. Team members think deeply about the learning reflected in the students' work and question both the effectiveness of their own practices and the validity of their assumptions. During this learning cycle, teachers gain both self-confidence and insight into the teaching and learning of mathematics.

Debriefing the bansho as a group results in a deeper understanding of the benefits and challenges of this strategy for students. The teachers question whether the evidence they saw in student work represents the learning of all students, and this leads to further wondering about how teachers might assess student understanding during a teaching-learning cycle.

This resource highlights one group of teachers who are passionate about teaching and learning. They delve deeply into what effective teaching of mathematics might look like. They learn how to talk about their teaching practices and their observations. Productive conflict is part of the norm as they think about their long-held beliefs and assumptions in light of what they believe today's learners need. These teachers seek and give honest descriptive feedback as they chal-

The innovative practices in mathematics education explored by the teachers in this video are the subject of two recent LNS monographs – *Communication in the Mathematics Classroom* and *Bansho (Board Writing)*.

Capacity Building Series:

<http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/capacitybuilding.html>

lunge themselves and each other to be the best that they can be. John Hattie states that two essential ingredients of learning are challenge and feedback – both are very present in this inquiry (Hattie, 2009, p 38).

“It matters when teachers see learning through the lens of the student grappling to construct beliefs and knowledge about whatever is the goal of the lesson.”

“Teachers and principals need to ... ask, ‘What is working best?’, ‘Why is it working best?’ and ‘Who is it not working for?’”

JOHN HATTIE

Webcast Segments

Setting the Context

Teachers prepare to observe a lesson in mathematics co-taught in two junior classrooms. Their focus is on student work, thinking and dialogue. The intent of this group is to examine, analyze and improve their practice based on student needs as evidenced in their work. This team of teachers and their principals collaborates to develop and nurture a climate conducive to deep learning and thinking for all members of their learning community.

What did you notice the facilitators saying and doing to build an open-to-learning culture for this team? How might you promote an open-to-learning culture with your team?

Before the teachers observe students solving the problem, they do the mathematics themselves. Why do you think this is important? What did the dialogue in this segment reveal to you as possible challenges to staff engagement? How might you address these challenges with your staff?

Productive conflict occurred during this session as participants thought about their practice. How would you encourage this sort of deep thinking and still keep the conversation open?

Why is it beneficial for teachers to examine their practice through the lens of student learning? How might you encourage your staff to take this critical stance when examining their practice?

Classroom Visit #1

Students work collaboratively in small groups to solve the math problem presented to the class. All students participate in working towards the solution. The interaction is respectful. Students are thinking about the mathematics and the collaborative process required to solve the problem. They will also reflect on what works best for them as learners.

*What do you see as the advantage of being an observer in the classroom?
What questions might you ask of yourself as you observe student learning?*

Making teaching and learning visible takes courage and confidence. How do you think these administrators supported their staffs? How might you support a culture of collaborative learning for your staff?

How do you think this classroom visit facilitated the teachers in looking at their practice through the lens of their students?

Debrief of Classroom Visit #1

The learning team debriefs their classroom visit, describing and analyzing their observations of student work. They discuss which strategies worked well and which might need to be adjusted for their next classroom visit. The dialogue is honest, reflective and open to learning.

This team is looking deeply at student work and searching for clues of strengths and needs that will impact on their next steps. What evidence do you see that this team is challenging their assumptions and beliefs?

What evidence did you see that teachers were thinking through the lens of their students?

What do you see as the benefits of examining one's practice through the lens of the learner?

What resonated with you most while viewing this segment?

What do you think is the most valuable result of this sort of collaboration?

What might be your next steps in facilitating this type of professional learning?

Classroom Visit #2

The structure of this learning environment is such that students feel comfortable sharing their thinking in order to solve the problem. They build on the ideas of others and call on their schema to help them in their work. Students are learning to record their ideas in a way that explains their thinking. The interaction is respectful and the students are open to new ways of understanding as presented by their peers.

Collaborative learning is powerful and inclusive of all students. What is the teacher's role as students are engaged in doing the math?

What prior learning is necessary in order to set up the group work experience for success? How might you support collaborative learning with your staff?

What 21st-century skills are these students learning and applying as they engage in collaborative problem solving?

Assessment is often seen as a challenge presented by collaborative learning. How might you address the challenges of collaborative learning?

Debrief of Classroom Visit #2

The learning team meets to discuss their observations during their second classroom visit. They describe and analyze what they noticed about the students' work, dialogue and behaviours as they collaborated to solve the problem. During the conversation, the team reflects on the process, their learning and how their new insights might impact on their practice.

These teachers looked carefully at evidence of student learning to support their instructional decisions. They constantly asked, "What does this mean?" and were not afraid to admit that at times, they did not know.

How might you ensure that new learning and deep thinking are transferred to action in the classroom?

Several comments referred to concerns about reaching every student. How might you differentiate the instruction and the assessment in order to meet the needs of all students?

What evidence did you see that these teachers were open to learning and changing their practice in order to improve student learning?

Principal Team Debrief

Three principals meet to debrief the collaborative inquiry session. They consider their roles as leaders and learners and identify next steps in supporting all members of the learning community. The dialogue is respectful, reflective and open to learning as they examine the successes and challenges of their work.

What evidence did you see that these principals are learners and leaders?

What insights did you gain about action-oriented leadership?

What questions do you think these principals ask of themselves and their staffs in order to connect everything to student learning?

References and Related Reading

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Volume One, Foundations of Mathematics Instruction

Volume Two, Problem Solving and Communication

Volume Three, Classroom Resources and Management

Volume Four, Assessment and Home Connections

Volume Five, Teaching Basic Facts and Multidigit Computations

Technical Instructions

How to Access the Print and Video Resources

To access the Print and Video Resources folder in Windows, insert the DVD into the DVD drive of your computer and:

1. Click on the Start menu.
2. Select My Computer.
3. Right-click the mouse on the DVD icon titled THROUGH_THE_EYE_OF_THE LEARNER_DVD to open a drop-down options list.
4. From the drop-down list, select and click on the Open option.
5. Double-click on the folder titled Print and Video Resources to access the files. Ignore the folders titled Audio_TS and Video_TS.
6. Select the resources you wish to use directly from this folder, OR Copy onto the Desktop and open files from the Desktop.

Alternatively, when the DVD is inserted and the options box opens:

1. Select the option Open Folder to View Files.
2. Click on the Print and Video Resources folder.
3. Select the files you wish to use directly from this folder, OR Copy the files onto the Desktop and open them from the Desktop.

To access the Print and Video Resources folder in Mac OS X, insert the DVD into the DVD drive of your computer and:

1. Exit from the DVD player (which typically opens automatically when a DVD is inserted in the drive).
2. Double-click on the DVD icon titled THROUGH_THE_EYE_OF_THE LEARNER_DVD.
3. Select the files you wish to use directly from this folder, OR Copy the files onto the Desktop and open them from the Desktop.

How to Save the Video Files to Your Computer

The video files can all be copied and saved to your computer using either of the following methods for copying and pasting files.


Method 1

1. Right-click on the file and choose the Copy option.
2. Right-click within any computer folder into which you would like to save the file, and choose the Paste option.

Method 2

1. Left-click the mouse on the file you want to save, so that the file is highlighted.
2. Simultaneously press the Ctrl and C keys (or, for Macintosh users, the Command and C keys) to copy the file.
3. Left-click within any computer folder in which you would like to save the file, and simultaneously press the Ctrl and V keys (or, for Macintosh users, the Command and V keys) to paste the file there.

For Macintosh users, the Command key is the one with the following

symbol: 

NOTE: If you want to insert video files into a PowerPoint presentation, you must save these video files in the same folder that contains your PowerPoint file. If you save a PowerPoint presentation to another location (e.g., a memory stick, CD-ROM, etc.), you must also save the video files in the same location in order for the video to play. So, if you transfer the presentation to another computer, you must also transfer the video files with it, or else the video will not link to the PowerPoint presentation.

How to Insert Video Clips (WMV files) into a PowerPoint Presentation

On this DVD, you will find WMV versions of all segments of the webcast. To insert a clip into a PowerPoint presentation, follow the directions below:

1. Open your PowerPoint program.
2. Create a new PowerPoint presentation OR open an existing PowerPoint presentation, and within it, open the slide on which you would like to add the video.
3. Insert the webcast DVD into the DVD drive of your computer.
4. If a new window opens asking how you would like to view the files on the disk, choose the option Open Folder to View Files; OR
If a new window does not open, open the My Computer window from the Start menu. In the My Computer window, double-click on the icon that is shaped like a disk, which will likely be labelled D: or E:.
5. Save the video segment that you want to insert in a PowerPoint into the same folder that contains your PowerPoint presentation.

NOTE: Video files that have been saved to your computer can be cropped and edited into smaller segments using Movie Maker (free on PCs) or iMovie (free on Macintosh).

6. Open the PowerPoint slide on which you would like to insert the video, and click on the Insert menu in the PowerPoint menu bar.
7. From the Insert menu, select Movies and Sounds, and click on the Movie from File option.
8. A window opens, prompting you to select the video file that you would like to add. Find and select the video file that you saved in step 5.
9. Once you have chosen the video file you need, another window opens and asks whether you want your movie to play either automatically when you enter the slide, or only when it is clicked. Choose your preference. (You will notice that the starting image of your movie is not displayed on the slide.)



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