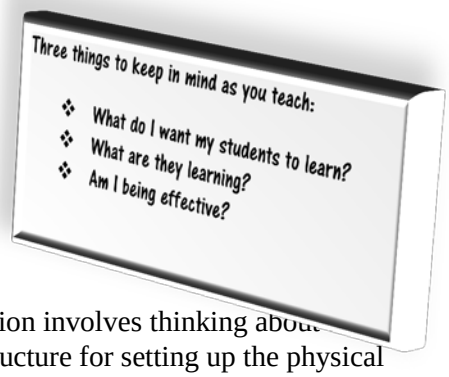
Whole Class Mathematics Discussions: Improving In-Depth Mathematical Thinking and Learning

Framework for Transforming Your Teaching & Implementing the Common Core Standards of Mathematical Practice



The ultimate goal of teaching is to support student **LEARNING!**

NOTE: Supporting mathematical learning through whole class discussion involves thinking about larger picture of planning and teaching. This framework provides a structure for setting up the physical space, planning lessons, developing classroom routines, structuring time and facilitating discussions through *Three Levels of Sense Making* in order to make mathematical connections. Optimizing student learning involves situating a whole class discussion within larger mathematical goals. Whole Class discussions should be part of larger conversations that take place over time.

Checklist of Progress: Name: _____ Date:_____

	Not Met	Work in Progress	Working Great	To do list	Tools from Whole Class Discussion book
Setting up the Classroom					(Chapter 2) *P.36 Checklist
Setting up Physical Space					
Cultivating Classroom Environment/Routines				Note: Routines for (Communicating/Listening Takes place during whole class discussion. These routines take time to develop.)	(Chapter 3) *P.60 Strategies for Your Classroom, Ideas for Developing classroom Routines
Routines for Preparing for Discussion					Standards of Mathematical Practice 1,4,5,7,8
Routines for Communicating					Standards of Mathematical Practice 2,3
Routines for Listening/Reflecting					Standards of Mathematical Practice 1
Lesson Planning				Note: Third level of planning takes place during lesson/discussion. The purpose of the first 2 levels of planning is to situate the discussion in larger goals to support deeper learning.	(Chapter 4) *P.91 Strategies for Your Classroom (Three Levels of Planning)
First level Planning (Long term & Short Term					*P.92 Concept Map *P.93 Rubric for Unit

Goals) Concepts (big ideas) Unit Plan (Sequencing/learning trajectory)					Planning
Second Level of Planning 5 E-Lesson Plan- (Anticipating Student Reasoning/Misconceptions Errors, Format for using a problem solving approach to teaching and structuring time)					*P.94 Rubric for 5E Lesson Plan: Level 2
Third Level of Planning (Adapting discussion to support student understanding/needs) Making decisions on what to talk about based on student reasoning during lessons					*Rubric for Planning the Discussion: Level 3
Teacher Questioning/ Supporting Mathematical Connections				Note: These levels of Sense Making make up the Whole discussion. The teacher poses a problem and issue for class to discuss. The teacher uses questions to help students make mathematical connections. Students communicate their ideas; reflect on their own ideas and others being presented to make connections. (See classroom routines section).	(Chapter 5) See p. 69 Figure 4.1 (Identify topic for discussion based on goals)
Three Levels of Sense Making					*P.116 Strategies for You Classroom: The Three Levels of Sense Making
Phase 1: Making Thinking explicit					Standards of Mathematical Practice 2, 3, 4
Phase II: Analyzing Each other's solutions					Helping students make connections from low level strategies to sophisticated strategies See p. 102-103 Address Errors/Misconceptions

					Standards of Mathematical Practice 1,3,4,6,7,8
Phase III: Developing New Mathematical Insights					See Case Study p.103-107 Identify "big ideas" in Lesson and create a record Standards of Mathematical Practice 1,2,4,5,6,7,8
				Improving Teaching Through Reflection	
Reflecting on Your Teaching (Making Teaching Visible) (Chapter 6)	What are you currently doing?	What is working/what is not?			
Making teaching Visible What are you currently focusing on?					See: Reflecting on Practice Questions throughout chapters & *Reflecting on Your Practice Worksheets in End of Chapter Study Guides

Next Steps:

This checklist is designed to help implement the framework in: Lamberg, T. (2013). Whole Class Mathematics Discussions: Improving In-Depth Mathematical Thinking and Learning, Pearson Publishers. *Can download worksheets from PDToolkit that accompanies book.