The Discursive Instructional Mathematics Protocol

1. Understand the problem	
Check for understanding	- Students describe problem in familiar terms. - Students underline important information in problem. - Teachers ask: "What is the problem asking you to do? What do you know that can help you figure this out?" - Students define new words and begin using them in sentences.
Teacher deliberately incorporates ESL strategies	- Students use a picture, diagram, or some type of mathematical representation to concretely model problem.
Teacher maintains high expectations and recognizes students' intellectual assets	- Teachers look for opportunities to highlight students' mathematical ideas with other students.
2. Create a plan to solve the problem	
Students create plan to solve problem	- Teachers ask: "What strategy, representation or tool will work best to solve the problem?" - Teachers assess student understanding of their plan.
Teacher deliberately incorporates ESL strategies	- Teachers integrate graphic organizers and mathematical models during small group instruction and discourse.
3. Carry out the plan to solve the problem	
Teacher engages students in mathematical discourse and meaning making	- Teachers engage whole class in mathematical discourse and ask questions while highlighting student work. - Teachers integrate the mathematics register in discourse and instruction.
Teacher continues to use deliberate ESL strategies	- Teachers use gestures, cognates, revoicing, graphic organizers and mathematical models.
Students refine and revise their solutions	- Teachers do not need to be overly concerned in this stage about students' production of "correct" English.
4. Looking back	
Students reflect on their solutions	- Teachers ask: "Does your solution make sense? How do you know? What questions do you still have at this point?"
Teacher works to help students use the formalized mathematics register	- Students write up their final solution to the problem using the mathematics register.