VIDEO NOTES: *6th Grade Math Lesson on Area and Perimeter*

Video Links: 6th Grade Math Lesson on Area and Perimeter
Common Core State Standard: Measurement and Data (CCSS.3.MD.D.8)
Compass Component and Rating: Engaging students in learning (3c), *Effective Proficient*
Lesson Objective: Apply knowledge of area and perimeter to solve real-world problems.

Common Core State Standard(s)
Measurement and Data (CCSS.3.MD.D.8) Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Compass Component 3c: Engaging Students in Learning (Rating: *Effective Proficient)*		
Indicators	**Evidence**	**Common Core Connection**
Most students are intellectually engaged in the lesson.	• During the whole group and small group discussion, all students work to create the two rectangles and many students make connections to concepts. (4:50)	
Learning tasks have multiple correct responses or approaches and/or demand higher-order thinking.	• Through the two tasks of creating a plan in small groups (4:09), then acting on the plan in a whole group (8;28), students arrived at different but correct solutions. This reinforces the concept within math of using different strategies and different solutions to solve a problem. • Students connect the concepts of perimeter and area to the real world. For example, a student connects the concepts of area and perimeter to a "renaissance table." (4:58) Content retention and depth of understanding are deepened through real-world connections.	While creating the two "table" rectangles, students address CCSS.3.MD.D.8, which allows them to apply their knowledge of area of rectangles to a real-world problem.

Students have some choice in how they complete learning tasks.	• With minimal guidance from the teacher, students engage in small group discussion, creating different solutions to the same challenge. Students also had a choice in how they completed the task of creating the rectangles. Allowing students to choose how they addressed the challenge of creating the table helps them self-assess theirunderstanding of the concept of perimeter, trying repeatedly until they develop a logical solution.	Teacher presents students with a challenge problem, but does not tell them how to solve it. Talking through the problem in groups and explaining an answer allows students to address CCSS.Math.Practice.MP1. Students use models to solve mathematical problems when they apply the principle of area through the use of a table(CCSS.Math.Practice.MP4).
Materials and resources support the learning goals and require intellectual engagement, as appropriate.	• Teacher uses whiteboard during whole group discussion to note students' responses (2:45), and students use their notebooks to brainstorm solutions. The teacher also uses paper strips to engage students in the whole group rectangle activity. These materials support the learning goal because students are testing out different methods of solving a multi-answer problem. Students use the notebooks to experiment with each other's ideas, the white board becomes a central location for correct answers, and the paper strips allow students to maintain flexibility while working as a class.	
There is a mix of grouping types, suitable to the lesson objectives.	• The lesson starts out with a whole group discussion, then students engage in small group discussion before moving to a student-driven whole group activity. This allows students to hear one another's perspectives and potential solutions to the problem. This reinforces, again, the math concept of multiple pathways to a solution.	
The pacing of the lesson provides students the time needed to be intellectually engaged.	• With a clear beginning, middle and end of the lesson, the teacher allows students time to complete activities and some time to reflect upon their learning throughout the lesson.	

WHAT COULD THIS TEACHER DO TO IMPROVE?

What did the teacher do in this lesson?	*Highly Effective* Indicators	What could the teacher do to move to *Highly Effective*? (example actions)	How could this lesson be improved for students to meet Common Core standards?
The teacher leads the reflection conversation at the end of the lesson instead of having the students generate their own thoughts.	Students have an opportunity for reflection and closure on the lesson to consolidate their understanding.	Put students into groups to discuss what they noticed and learned from each rectangle-building activity before engaging in the whole group discussion. This would allow more students to engage in the whole-group debrief.	
Although students are engaged in creating the two rectangles, it is unclear if all students are gaining conceptual understanding of area and perimeter. Because of the limitations of this video, we only hear responses from a few students.	Virtually all students are highly engaged in the lesson.	Create a Common Core-aligned writing prompt at the end of the lesson where students reflect on the lesson individually. This way, the teacher could understand if all of her students understood the lesson's objective and be able to differentiate instruction in upcoming lessons.	While virtually all students are intellectually engaged in this lesson, the content is not as challenging as it needs to be in order to align to CCSS.6.G.A.1. To align with this standard, the teacher could ask students how they might find the area of two or more rectangular tables pushed together, (an irregular shape).
While students have the opportunity to create different solutions in small groups, students do not initiate questions to modify the task of creating the rectangles.	Students take initiative to modify a learning task to make it more meaningful or relevant to their needs.	After the whole group discussion, ask the students what their next steps should be and assign two or three students to lead a planning discussion about how to create the two rectangles. This could give the students the opportunity to reflect more on their understanding and modify the task based on this knowledge.	