VIDEO NOTES: *Kindergarten Math Lesson on Number Combinations*

Video Links: Kindergarten Math Lesson on Number Combinations
Common Core State Standard: partial alignment to Operations and Algebraic Thinking (CCSS.K.OA.A.1) and (CCSS.K.OA.A.3)
Compass Component and Rating: Using questioning and discussion techniques (3b), *Effective Proficient*
Lesson Objective: Use quick images to identify combinations of 8.

Common Core State Standard(s)

Operations and Algebraic Thinking (CCSS.K.OA.A.1): Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

Operations and Algebraic Thinking (CCSS.K.OA.A.3): Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

Compass Component 3b: Using Questioning and Discussion Techniques (Rating: *Effective Proficient*)

Indicators	Evidence	Common Core Connection
Teacher uses open-ended questions, inviting students to think and/or have multiple possible answers.	• Teacher asks questions that require students to reflect not just on the number they saw but also on how they saw the number. For example, the teacher says *"So I don't want to know anymore how many there are. I want to know how you see them"* (2:35). This helped the students understand the different ways to visualize number combinations.	Students decomposed the number eight into: five and three, four and four, counting by twos, etc., using magnets on the board (CCSS.K.OA.A.3). The magnets represent models of numbers and addition, allowing students to achieve CCSS.Math.Practice.MP4.
The teacher makes effective use of wait time.	• Although students answer most of the teacher's questions quickly, the teacher allows ample time for students to respond, ranging from two to five seconds.	
The teacher builds on student responses to questions effectively.	• Once a student notes that the total number of magnets will always be eight, the teacher acknowledges the comment, engages the rest of the group in confirming the number, and shifts her line of questioning to ask how they see the eight	By looking at different groupings, that will always equal eight, students represent different ways to use addition to reach the same sum (CCSS.K.OA.A.1).

	magnets (1:48). This shows that the teacher is altering her instruction to continue to push the students because they have already determined that the total number will not change. • Teacher invites students to build on each other's responses by rephrasing comments in their own words, asking questions such as, "*Can someone tell me what Jaylen just said?"* (3:27). She also builds on a student's response about counting by 2s by encouraging him to demonstrate his thought process in front of the whole class (4:15). This allows the students to deepen their understanding of the content by explaining someone else's response in their own words or demonstrating their thinking.	
The teacher calls on most students, even those who don't initially volunteer.	• Within the clip of this video, we see the teacher engage 13 of 21 students in the discussion.	
Many students actively engage in the discussion.	• While we don't hear from all students in this clip, we know that all students are actively engaged by using their thumbs to show the teacher how many numbers they counted (0:34).	

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?
Students have limited opportunities to pose questions to their peers and reflect on their learning.	Students initiate higher-order questions.	Arrange students in pairs or small groups at the end of the lesson to summarize the different ways to count to eight and begin thinking about how this lesson could connect to addition and subtraction.	This lesson is only partially aligned to CCSS.K.OA.A.3 because students do not record their decompositions of the number eight using a drawing or equation. This lesson could be improved to increase alignment by asking students, during partner or small group time, to represent the decompositions in a different manner.
Students interact with the teacher, answering her questions. Students do not extend the discussion.	Students extend the discussion, enriching it.	Provide students with sentence starters, allowing them to share out where they have used this skill or seen different groupings of numbers outside of the classroom. This will increase student learning because they are provided with support and scaffolding to begin, but must utilize their individual knowledge and experiences to complete the task.	
Students have limited opportunities to invite	Students invite comments from their classmates during a discussion.	After practicing one combination as a whole group, have students do a turn-and-	

comments from their peers and reflect on statements made by classmates.		talk so they can hear the thoughts of their peers. Students could then share out and comment on each other's thoughts. Turn-and-talk allows more students to interact with the content, while hearing and reflecting on each other's ideas reinforces the content knowledge and skills involved in creating different number combinations.	