

Mrs. Sigler's First-Grade Class: Experiences with Triangles Part 2

The next day, Mrs. Sigler brings out a large box of strips made of cardboard of different lengths, with holes at the ends. They can be fastened together by the use of brads. From the previous day's discussion she knows that the students are simply identifying the names of geometric shapes with a typical image. They are not considering the defining properties of a triangle. So she gives each child three strips from the box and asks them to use the strips and the fasteners to create a triangle. By choosing the strips, she has made sure that all varieties of triangles – equilateral, isosceles, and scalene – will be produced by at least one or two students in the class. After each child has made a triangle, Mrs. Sigler tapes them all to the front board. She then holds a large-group discussion about the triangles.

Script	Talk Moves and Purposes
Mrs. S: Let's look at these shapes. Does anybody notice anything about the shapes? Cecile?	
Cecile: all of them are made from three strips.	
Mrs. S: Craig, can you put what Cecile just said in your own words?	
Craig: The triangles all have three pieces.	
Mrs. S: Does anybody see a triangle that was made from <i>more</i> than three strips?	
Students: No, no. They all have three.	
Mrs. S: I notice that all of these triangles are not identical; they don't all look the same. How are they different? Pooja?	
Pooja: Some of them are big and some are small.	
Mrs. S: What makes a triangle big or small? See these two triangles? [Mrs. S. takes one large triangle and one small triangle and places them next to each other on the board.] What did someone do to make them different?	
Pooja: You use long strips to make the big one and short strips to make the small one.	
Paul: Mine is the big one and I used the really long strips.	
Mrs. S: How many long strips did you use, Paul?	
Paul: Three.	
Mrs. S: Who else made a big triangle? [Points to a couple of triangles on the board that are large.] How many strips did you use?	
Cristobal: I made that one over there. [Points to an isosceles triangle.] I used three strips.	
Mrs. S: Who made a small triangle?	

Ben: I did! I used three strips, too!	
Ali: Me, too. My triangle took three strips.	
Mrs. S: OK, so now let's use a word that people use to talk about some geometric shapes. We can use the word 'side'. This triangle has three sides – one, two, three. [points to each side as she counts] How many sides does Ali's triangle have? [points to Ali's triangle, a long and thin scalene triangle made with two longer strips and one short one]	
Ali: My triangle has three sides.	
Marsha: But Mrs. Sigler, I don't know if that's a triangle. It doesn't look like the triangles from yesterday.	
Mrs. S: That's an important question. Can somebody repeat for us what Marsha just said? Ali can you repeat what Marsha just said?	
Ali: She said that my triangle isn't really a triangle because it doesn't look like the ones we put in the triangle group yesterday.	
Mrs. S: Marsha, is that what you said?	
Marsha: Yes, but I didn't mean that Ali's triangle wasn't a triangle. I just meant that it didn't match the ones from yesterday in our group.	
Mrs. S: OK, so Marsha has asked a really important question. Is this shape a triangle? And what about those triangles from yesterday? Remember yesterday, when we were sorting triangles? [General acknowledgment comes from the students.] Some of you thought that a shape like this [points to Ali's triangle] didn't belong in the same group with triangles that looked like this [points to an equilateral triangle on the board]. So we have a really important question here. [She pauses . . . all eyes are on Mrs. Sigler.] Just what <i>is</i> a triangle?	

What are Mrs. Sigler's choices at this point in the discussion?

How does she get students to orient to the thinking of others? How does this help their learning?