

Stephanie Evans

Math Methods

December 9, 2010

Project 6—Diagnostic Interview

Mathematical Task: Solve a story problem using any method already learned in class (e.g., chips and a break-apart stick, Math Mountains, or writing an equation).

Story Problem: “I have 9 wagons. 3 are blue. The others are red. How many wagons are red?”

Answer: “6 wagons are red.”

Materials:

- Story problem written on a large sticky note
- Small white board
- Dry-erase marker
- Eraser
- Cup of chips
- 1 Break-apart stick

Questions:

- How do you know you are finished solving the problem?
- How did you get your answer?
- How do you know your answer is correct?

Rubric:

Excellent	Good	Okay	Needs Improvement
The student used all the parts of a math method learned in class to solve the story problem and got the correct answer.	The student used some of the parts of a math method learned in class to solve the story problem and got the correct answer.	The student used some parts of a math method learned in class to solve the story problem and did not get the correct answer.	The student did not use any of the parts of a math method learned in class to solve the story problem and did not get the correct answer.

Write up:

Student 1

Age: 6

Pertinent Information: This student is a boy and he is Autistic.

Child's Understanding: He looked at the problem, counted on his fingers, and wrote the number 5 on the white board. Then, he erased the number 5 and wrote the number 6.

When I asked him how he got his answer he said that he took the number 3 counted on his hands and got the number 6.

Help: He used parts of a method taught in class because he counted on from the number 3, which is the known partner, until he got to the number 9. Then he noticed that on his fingers was the number 6, so he knew that was the answer. According to the rubric, he got "good" on the diagnostic interview, which is wonderful! However, I need to help him understand that using all parts of a math solving method is part of showing your work, which is a component of the first grade math curriculum.

Student 2

Age: 6

Pertinent Information: He is a boy and an on level student.

Child's Understanding: He started solving the problem by writing a Math Mountain, but he got the wrong answer, so he tried the chips and a break-apart stick. However, the chips and break- apart stick made him more confused. Finally, we talked about partners of 9 and he left understanding at least that one of the partners of 9 is 6 and 3.

Help: He used two methods to solve the story problem, but both methods confused him. According to the rubric, he got an "okay" on the diagnostic interview. For this reason, I need to review with him the partners of numbers to make sure he understands that concept. Then I will review with him all the strategies used to solve word problems, so he can use them effectively the next time he needs to solve a story problem.

Student 3

Age: 6

Pertinent Information: This student is a girl and she is in an accelerated learning program.

Child's Understanding: She started solving the problem by writing a Math Mountain, but changed her thinking and decided to use chips and a break-apart stick. Then she arranged the chips so that 3 were turned to the yellow side and 6 were turned to the red side, with the break-apart stick in the middle of the 3 yellow and 6 red chips. Finally, she wrote the answer "6 red wagons" on the white board.

Help: She used all the parts of the math method that uses chips and break-apart stick when solving story problems. According to the rubric, she got an "excellent" on the diagnostic interview, which is great! However, I need to help her understand that Math Mountains represent equations the same way chips and a break-apart stick represents an equation.