

# Study Guide Questions - Day Two

## Planning

1. How did the teacher plan to help students develop ways to give clear justifications and explanations? [Click on Issues Matrix, Day 2 Journal, Crime- #18]
2. In thinking about the students' activities today, how would you begin tomorrow's lesson? Compare your plan with what actually occurred.
3. What do you think about the teacher's planning and how it impacts her teaching in the classroom? [Click on Issues Matrix, Day 2 Journal, Mathematical Agenda- #17, and Anticipating Student Understanding - button19]

## Facilitating

1. How did the teacher ensure that all of the students were participating in their group work? [Click on Issues Matrix, Day 2 Journal, Sum & Average- #65 & 72, Facilitating Group Work - #71]
2. Look at the interactions between the teacher and the students in each of the groups. What do you think were the teacher's goals in her interactions with each of the four groups? [Click on Issues Matrix, Day 2 Journal, Facilitating Group Work - #71, and Mathematical Content - Sum & Average - #72,73,74]
3. What should be the goals of the teacher as she interacts with students as they work in groups?
4. What techniques could you use as a teacher to engage more students in class discussions?
5. The teacher discusses changes she made for this lesson based on her past teaching experience. Can you think of a time in your own practice when you've done this? [Click on Issues Matrix, Day 2 Journal, Class Organization - #19]

## Student Thinking

1. Discuss what you think the students' understandings of "rate" are. In their mathematical communication, does their understanding of rate appear problematic for them? [Click on Issues Matrix, Day 2 Journal, Rate - #21, and Context - #70]
2. The teacher originally planned a homework assignment that would enable her to assess students' thinking about the relationship between average and totals. However, due to time constraints and the way the lesson unfolded, she chose not to assign the homework. In these quick moments when teachers must make decisions, how important

is it to obtain a tangible assessment for you as a teacher? Can you think of any alternative assignments that she could have given to obtain a written assessment of students understanding? [Click on Issues Matrix, Day 2 Journal, Teacher Decision Making - #20]

3. Describe Gionni's role in his small group. [Click on Issues Matrix, Day 2 Class, Student Understanding- Sum & Average - #74]

### **Mathematical Content & Context**

1. The teacher spent a considerable amount of time in the beginning of the lesson sorting out the issue of the ranks of the totals and ranks of the averages. Why did she do this? After having the students find the average of the totals they had gotten in the sneakers problem, most students believed that the average would give the same results most of time, but not necessarily every time. What do you think are the advantages and disadvantages of having the students move forward in the lesson sequence without coming to closure on their understanding of the relationship between average and total? [Click on Issues Matrix, Day 2 Journal, Mathematical Agenda - #17, and Classroom Day 2, Sum & Average - #62, Facilitating Group Work - #63, Sum & Average - #64 & 65, Student Thinking Sum & Average - #68]

2. Write a careful mathematical description of the systems developed by each of the four groups. What are the relative strengths and weaknesses of each approach? [Click on Issues Matrix, Day 2 Class, Facilitating Group Work - #71, and Mathematical Content, Sum & Average - #72,73,74]

3. The teacher discussed current newspaper articles to introduce the Crime problem. Would you have used these resources in a similar or different fashion? [Click on Issues Matrix, Day 2 Class - Mathematical Content, Sum & Average - #69]