

Study Guide Questions - Day Three

Planning

1. The teacher noticed that as students explained their ways of reasoning in the whole-class setting, they tended to make eye contact with her rather than each other. Why is this an issue for the teacher? What changes would she like to see occur? [Click on Issues Matrix, Day 3 Journal, Classroom Norms - #26]
2. After Group 3 (Rob, Chris and Alfred) worked through the data for a second set of cities, the teacher asked them about Nashville's ranking this time. Tina wanted to know how this data can be reported in magazines if it is different every time. How could you use this question in planning for tomorrow's lesson? [Click on Issues Matrix, Day 3 Class, Classroom Norms - #84]
3. Why do you believe the teacher spent a great deal of time planning how she would orchestrate the whole class discussion? What did she hope to achieve through her playful selection of students' solutions? [Click on Issues Matrix, Day 3 Journal, Class Organization - #23]
4. The teacher discusses the misplacement of the homework problem and stated that she wished she had a problem in her hand at that moment. Develop a homework problem that the teacher could have used.
5. In planning a lesson, how much emphasis should be placed on homework? How would you combat the dilemma of not having an appropriate problem ready to use?

Facilitating

1. Find two instances where the teacher revisited and monitored the norms she established for class participation.
2. Here are three examples of questions the teacher used to clarify information, encourage participation, and extend student thinking. Find three other examples where the teacher used these questioning techniques. [Click on Issues Matrix, Day 3 Class, Classroom Norms - #75, and Teacher Decision Making - #78, and Understanding Student Thinking, Sum & Average - #80]
3. In what ways, other than questioning, did the teacher facilitate class discussions and student learning? [Click on Issues Matrix, Day 3 Journal, Student Engagement- #28]

Student Thinking

1. View the following clips where the students shared their systems with the class. What did the students reveal about their mathematical thinking? Do you believe the students met the NCTM Standard of Mathematics as Communication? [Click on Issues Matrix, Day 3 Class, Classroom Norms - #75, 79, 81, and Student Questions - #78, 82]
2. How did the teacher assess student understanding in this lesson? [Click on Day 3, journal - Facilitating - Classroom Norms, # 26, and Day 3 journal, Systems for Data Analysis - #30]
3. Given the students' confusion on the relationship between average and total, what would you do next to help them clarify this concept? [Click on Day 3, journal, Student Understanding - Sum & Average, #29, and Day 3, class, Student Understanding - Sum & Average - #80]

Mathematical Content & Context

1. The teacher felt there was progress in the students understanding of the relationship between average and sum. Describe three instances that would support the teacher's claim. [Click on Day 3 journal, student understanding - Sum & Average, #29]
2. What are the mathematical concepts the teacher is trying to assess by assigning a second data set? What other mathematical concepts could be addressed? [Click on Day 3 journal, systems for Data Analysis, #30, and Day 3 journal, Teacher Decision Making - #31]
3. What impact did the context of the problem have on student engagement? What does that lead you to believe about the context of problems? [Click on Day 3 journal - Content-context, #27]
4. One of the teacher's goals in this lesson sequence was to have the students symbolize their systems. Describe how she introduced and taught this concept to students. Why do you believe the teacher felt it was important for the students to be able to symbolize their systems? [Click on Day 0 journal, Mathematical Agenda, #3, Day 3 class, Content - Systems for Data Analysis - #76, Day 3 class, Symbolization - #77, and Day 3 class, Classroom Norms - #84]