Questions to consider for the analysis

of the videotape on solving systems of equations

Watch the first clip and then pause when it reaches 10:10. Respond to the following questions.

1. Based on the introduction, what do you believe the mathematical goals are for this task?
2. In what ways did the teacher connect this task to what students already learned?
3. How would you characterize the cognitive demand of the selected task?
4. Was the cognitive demand of the task lowered or maintained during the introduction?
5. A student verbalizes her prediction about whether Claire will catch Torrence. Is this how you would expect a student to respond to this question?
6. Are there different responses to this question that you might anticipate?
7. After this introduction, students work in pairs on the questions included in the pdf version of the activity. How do you anticipate students will respond to the questions on the worksheet? What difficulties do you think students might encounter?

Restart the videoclip and watch 10:32 – 10:37. Then pause the recording and respond to the following questions.

1. The teacher walks over to a pair of students working on the problem. The girl on the left draws a picture to represent the situation. Is this an accurate mathematical representation of the situation?
2. How does this student use this representation to reason through the problem?
3. Are there different questions that you might have posed as the teacher to assist these students?

Restart the videoclip and watch 10:38 – 10:41. Respond to the following questions.

1. The teacher chose to highlight Shay’s representation on the board. Do you agree with her decision? Why or why not?
2. The teacher discussed particular coordinates related to the problem and related those to Shay’s representation. How does this videclip relate to the practice of Connecting that you read about in the 5 Practices book?
3. In what ways did she connect the different solutions to the mathematical goals of the lesson?

Restart the videoclip and watch 10:53 – 10:56. Respond to the following questions.

1. The teacher asks students to interpret what the slope and y-intercepts of the equations represent in terms of the situation. In response to a question about what the 0.25 represents, one student states (at 10:54) that it is “how long it is.” The teacher responds by asking more questions. How would you respond? Why?
2. In what ways did Geometer’s Sketchpad support students’ work on this task? Would you prefer to use a different technological tool with students? Explain.
3. What do you think students learned as a result of working on the task?
4. After viewing all of the videoclips, to what extend do you think the level of the cognitive demand was maintained?