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Round Sheet

Background:

For the past two weeks, students have been working with systems of equations, which are mathematical scenarios that involve more than one equation. So far, they have explored systems of equations in terms of scenarios that entail two competing companies, where each company can be represented by a line. Students are used to creating equations, tables, and graphs to represent the costs of the two companies, and then using their calculations to determine which company offers the best deal. They have discovered that that decision hinges on how much of the product they need to buy: both companies cost the same at the intersection point (the “solution” to the system of equations), one company is cheaper before the solution, and the other company is cheaper after the solution. This threefold pattern holds true for all systems of equations that have one solution.

My students can identify the solution to a system of equations from the tables and graphs, but their explanations of the significance of the three different options have been weak. They are not using mathematical evidence from the tables and graphs to back up their claims, so I decided to create a project that would force them to do that.

Last week, I split students into small groups and assigned each group a different scenario involving a system of equations. Each group has to create a commercial to advertise whichever company/product/person they think is the best choice, and they are required to reference their tables and/or graphs in the commercial to back up their choice. They are also encouraged to get creative!

Since I took over the class in November, I have struggled to get all students to be engaged in the material, as well as to get them to engage in the math in the first place. Many of the students struggle with basic math operations and have low confidence in their mathematical abilities. Last week, three new students – a level 1 English language learner and two special education students who are several grades behind in math – were added to my class, which has challenged me to think more about how to accommodate different learners.

Round Focus:

On Thursday and Friday of last week, students mostly completed their necessary calculations (a few groups need to finish graphing) and are now ready to start planning their commercial. In today’s class, I will present a model commercial to make sure that students understand the expectations, and then groups will have time to create a plan for their own commercial and finish graphing if necessary. At the end of class, each group will share their plan with a round participant or another group.

To promote engagement in this project, I intentionally grouped students with their friends and assigned them scenarios that matched their interests. When we began the project on Thursday, my students were the most engaged and productive I have ever seen. Friday, however, did not have the same level of engagement and productivity, and so I am curious to see how they respond to today's class. On Friday, the groups who finished their calculations seemed unsure as to how to start planning their commercial and how to incorporate math into this creative endeavor. My hope is that the model I present will help get them started and clarify the expectations.

Learning-Centered Round Inquiry

1. What did you see or hear to show that students understand the significance of the solution in terms of their scenario (i.e. that one option is better before the solution, the other option is better after the solution, and both options are equally as good at the solution)?

2. As students plan their commercial, how do they justify which company/product/person is better? Do they refer to the tables, graphs, and solution as evidence?

