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Teaching Middle and High School Mathematics

Unit Plan-Reflection

 When developing this unit, I struggled to find ways to break-down each lesson within the unit. I did not realize how convoluted even the most fundamental aspects of inequalities were. In one instance, I initially thought of combining the lesson on One and Two-Step Inequalities with Solving Inequalities With Variable on Both Sides. Then I took into consideration the fact that with One and Two-Step Inequalities there is the additional aspect of needing to reverse the symbol when dividing or multiplying by a negative. Hence I kept them separated into two lessons, aware of some of the difficulties and misunderstandings that this step would generate.

 This same thought process brought me to the realization that some confusion could occur with establishing the difference between “flipping” the inequality symbol when moving the variable from the right and “flipping” the inequality symbol when dividing and multiplying by a negative. Given my concern, I decided to consult with my mentor teacher as well as my Penn mentor. The best advice that I was able to gather was to use more specific and precise vocabulary for each instance. Rather than use the term “flip”, I should let students know that when the variable is on the right you are simply “rewriting the inequality” so that the variable is on the left, you are not changing its symbolic meaning. When dividing by a negative I should let students know that you are “reversing the inequality symbol” and changing its symbolic meaning so that it remains a true statement. I am hoping that I remember to make the distinction and not use the term “flip” when describing either/both cases.

 There is a lot for students to understand in these lessons- from first differentiating inequalities symbols themselves, to remembering when to reverse the symbol, to knowing whether to plot an open or closed circle, to determining whether to shade left or right- there were many layers/parts needed to understand the whole. Realizing this, while also being mindful of the fact that there was little time given that this unit falls within the shortest and most difficult marking period, made me a little uneasy. In an effort to best handle the situation and optimize student learning and understanding, I decided to incorporate as much scaffolded material as possible such as organizers, checklists, and even quick writes. Aware of the fact that meeting the needs of each individual student would be difficult, I also made an effort to build in a lot of pair/group work as well as review answers to classwork keeping in mind that students can learn a lot from one another.

 The more I think about this unit and each lesson, the more I am reminded of the various components that make up math and how complex even the “simplest” building blocks can be.