STEPS IN IMPLEMENTING AN EFFECTIVE ESTIMATION PLAN

By: Susiemae A. Diwa

1.) Establish a routine: Establishing a routine is very important so that the students can prepare carefully and expect regularity in learning Mathematics every day. Pick a time daily to devote to estimation. Carry over the work to a next class period, depending on the depth of the math involved.

2.) Provide students with a way to show their thinking and keep track of their estimates over time: I use a graphic organizer and venn diagram, which gives a student a chance to make high and low estimates and comparison as well. We share these estimates in a class but do not discuss reasoning at this point. After discussion, I want the students to settle on their choices so that they can see where their numbers fall between the high and low estimates. It is also important to the students that before making estimates, they can justify their choice; I want to make sure that the student is using the given information and mathematics to devise an answer. Some students will take more time than the others but I want to see the students’ thinking. If students finish quickly, I ask, “How did you get the answer? Is there a different way you could think about it? How did you know that?”

3.) Give students ample time to reason on their own: Never rush the process. Depending on the task, I want my student think for at least 5 minutes. This time it provides them the opportunity to make sense of the information they have, develop an approach or strategy to find the solutions and develop a justification for their number. If particular students reveal their strategy, students will never have the chance to adjust their thinking in the future.

4.) Display the estimations in a meaningful manner, so that all students can see all estimates: I want students to reason out about the display of their number choice. And discuss the findings.

5.) Throw out or disregard any estimates that are unreasonable and explain why: If the estimates are unreasonable. We then debate and weed out estimates.

6. Discuss students’ strategies and how they evolved: This step takes more practice. I ask students to share their estimation strategies and allow my class to ask more clarifying questions and agree or disagree. Give more time to students to share their strategic thinking so that they will arrive in just and acceptable reasoning.
7. **Allow time for students to adjust their estimations as the discussion progresses**: After the class discussion, I encourage students to update their choices. It is important to them to refresh their thinking.

8. **Reveal answers, discuss why the answer was or was not surprising, and how students could adjust or be more effective with their estimations**: The answer is not as important as the process. It answers the questions: Where did our process lead us? What did we learn from our approach? What could we change in the future to be more accurate?

Jen McAleer, NCTM May 22, 2017