TASK 4: MATHEMATICS ASSESSMENT COMMENTARY

Respond to the prompts below (**no more than 8 single-spaced pages, including prompts**) by typing your responses within the brackets following each prompt. Do not delete or alter the prompts. Commentary pages exceeding the maximum will not be scored. Attach the assessment you used to evaluate student performance (**no more than 5 additional pages**) to the end of this file. If you submit feedback as a video clip and your comments to focus students cannot be clearly heard, attach transcriptions of your comments (**no more than 2 additional pages**) to the end of this file. These pages do not count toward your page total.

1. **Analyzing Student Learning—Whole Class**

   a. Identify the specific learning objectives and standards measured by the assessment you chose for analysis.

   [For this lesson segment, students should be able to use their knowledge of rounding and then apply it to addition with estimation. The Common Core State Standards that can be applied to this segment are:

   > 3.NBT.1 Use place-value understanding to round whole numbers to the nearest 10 and 100.

   > 3.NBT.2 Fluently add or subtract within 1000 using strategies, algorithms based on place-value, properties of operations, relationships between addition and subtraction.]

   b. Provide a graphic (chart or table) or narrative that summarizes student learning for the whole class. Be sure to summarize student learning for all evaluation criteria submitted in Task 4, Part D.

   [Throughout the learning segment, we had a group of roughly ten students that appeared to be struggling with this concept or that needed gentle reminders of how to complete the given problems. The other fourteen or so students were able to complete this work on their own with great accuracy and comprehension of the skill. Those students that seemed to be struggling did not understand how to round to the nearest 10 or 100 and then add the two numbers. This was evident in the work that they showed in their rounding to get their estimated answers. Some students would only round to the nearest 10 when rounding to the nearest 100 would be more appropriate. The main issue was rounding correctly.]

   c. Using examples from the summary chart, discuss the patterns of learning across the whole class relative to

   - conceptual understanding

   - procedural fluency

   - mathematical reasoning/problem-solving skills

   [Students that succeeded with this segment showed their conceptual understanding and procedural fluency by taking what they new about the place value of the numbers they were adding, applying rounding knowledge, and addition with fluency within 3-digit numbers. For example, students were able to add accurately given the numbers proved in each problem. Then, those students knew that "34" (on number 13) does not have any numbers in the hundreds place, that meant that they needed to round to the nearest 10. Then, "727" has a number in the hundreds place, meaning that they needed to round that number to the nearest 100. Students could then prove that they can add fluently by providing the correct answer when they added the two rounded numbers. The last step of the problem required that students check for reasonableness by comparing their estimated answers to their non-estimated answers. If their answers were within a reasonable range of each other they know that their answers were "reasonable".

Students that struggled with this lesson did not show procedural fluency or conceptual understanding. Their answers did not follow the steps needed to supply a correct answer. Therefore, they could not produce a reasonable response.]

2. **Analyzing Student Learning—3 Focus Students**

From your analysis of whole class student learning, identify one area where students struggled mathematically. Select **3 student work samples** that represent the struggles in this area. These students will be your focus students for this task. At least one of the students must have specific learning needs, for example, a student with an IEP (Individualized Education Program) or 504 plan, an English language learner, a struggling reader, an underperforming student or a student with gaps in academic knowledge, and/or a gifted student needing greater support or challenge.

   a. In what form did you submit the work samples for the 3 focus students? **(Delete the choice that does not apply.)**

   ■ Written work samples in text files

   b. Analyze the 3 students' work samples and describe the students' struggle(s) as they relate to the underlying mathematical understanding and/or concept. Cite specific evidence from the work samples in relation to **mathematical errors, confusions, and partial understandings**.

   What do the students' errors tell you about their mathematical understanding? For example, if a student error occurs in a subtraction problem, then the underlying mathematical understanding may include regrouping, meaning of subtraction, and/or subtraction as the inverse of addition. The related mathematical understanding becomes the basis for the targeted learning objective/goal for the students.

   [Each student was able to show fluency in addition without estimating/rounding; there were no errors in their work and they were able to re-group when necessary and provided an accurate response. When students needed to round to get an estimated answer they were not able to round correctly or they did not understand what "estimate" meant. For example, Student A thought that estimating meant to provide their answer from adding the original problem. Student B showed confusion in what numbers they needed to round to find an estimated answer. Then, Student C attempted to round to the nearest 10, but they did not apply the correct strategy and thinking to get the correct response. Students B and C showed partial understanding because they knew that they needed to round at some point in their procedure to get their final answer. Student A showed no understanding of the procedure of solving.]

3. **Developing Students' Mathematical Understanding**

   a. Based on your analysis of the focus students' work samples, write a targeted learning objective/goal for the students related to the area of struggle.

   [After guided practice and sample questions, students will be able to round to the nearest 10 or 100 using the "bike on the hill" strategy or the "high-five" strategy. Then, students will fluently add their the numbers that they rounded.]

   b. Describe the re-engagement lesson you designed to develop each focus student's mathematical knowledge in relation to the targeted learning objective/goal. Your description should include

   ■ targeted learning objective/goal from prompt 3a

   ■ state-adopted academic content standards and/or **Common Core State Standards**, if applicable, that were the basis of the analysis

- strategies and learning tasks to re-engage students (including what you and the students will be doing)
- representations and other instructional resources/materials used to re-engage students in learning
- assessments for monitoring student learning during the lesson (e.g., pair share, use of individual whiteboards, quick quiz)

> Before responding to prompt 4 you will teach your re-engagement lesson. This lesson may be taught with the 3 focus students one-on-one, in a small group, or with the whole class.

[For the re-engagement lesson, students will review how to round to the nearest 10 and the nearest 100. They will be given two numbers (each in the 100's) and they will have to round them to the nearest 10 and then round them to the nearest 100; This will apply to Common Core State Standard "3.NBT.1 Use place-value understanding to round whole numbers to the nearest 10 and 100". The strategies that we use to round to the nearest 10 include circling the number in the tens place and then underlining the number in the ones. They then need to decide what two tens numbers the number in the tens place is between. After they either put the number that was underlined on the "bike hill" or they do the "high-five" test. If the underlined number is 5 or bigger it gets to ride down the hill and rounded up, and if you can give the number a high-five (if it is 5 or bigger) it gets rounded up.

After we have completed the rounding review, we will go on to re-do the problems that they struggled with on the My Math "Check My Progress" assessment that all students were assessed on. We will do the first of these problems together, moving through the steps at a slow and steady pace that all students are able to follow.

When students have demonstrated that they can complete this on their own with accuracy, they can work independently. If students continue to struggle, the teacher will continue to work with them step by step and providing questions that will lead them to the correct step or answer.

The resources/materials used for this re-engagement are pencils and the "Check My Progress" questions, re-typed with the addition of the rounding practice.]

4. **Analyzing Teaching**

   Cite evidence from the 3 focus students' work samples from the re-engagement lesson to support your response to prompt 4b.

   a. In what form did you submit the 3 students' work samples from the re-engagement lesson? **(Delete the choice that does not apply.)**
      - Written work samples in text files

   b. Analyze the effectiveness of the strategies you used during the re-engagement lesson to develop students' mathematical understanding in the identified area of struggle.

   > Consider the change in students' mathematical understanding or misconception(s) in relation to the identified area of struggle when describing the effectiveness of the re-engagement lesson.

   [Student A continues to struggle with the idea of rounding. I needed to help this student complete the entire worksheet, reminding her what number to underline and what to circle depending on if they are rounding to the nearest 10 or the nearest 100. Student A then became confused with how to re-write the number when you round. This student resorted to

the place-value chart and began to re-write the original number, stating that it was the rounded number. I needed to show her how we can use the place-value chart to see if we need to round to the nearest 10 or 100; we do not need to use the place-value chart after we have decided how to round the number.

Student B was able to complete the work on their own. While they did struggle with the rounding in the first set of problems, they needed a reminder to think about the two tens numbers that "26" or "92" fell between. After this reminder, the student finished their work with great accuracy, displaying proper procedures.

Student C also was able to complete this work on their own. This student just needed to move at a slower pace and needed some confidence boosting. This student was able to round with accuracy, displaying how to use the "high-five" strategy correctly and looking at the two tens or hundreds numbers that they circled. This student produced accurate answers and their confidence increased after I gave them praise and encouragement throughout the lesson when a correct answer was given.]