PPAT® Assessment

Library of Examples – Math

Task 4, Step 2, Textbox 4.2.1: Instructional Strategies

Below are two examples of written responses to Textbox 4.2.1 as excerpted from the portfolios of two different candidates. The candidate responses were not corrected or changed from what was submitted. One response was scored at the Met/Exceeded Standards Level and the other response was scored at the Does Not Meet/Partially Met Standards Level. This information is being provided for illustrative purposes only. These excerpts are not templates for you to use to guarantee a successful score. Rather, they are examples that you can use for comparison purposes to see the kinds of evidence that you may need to add to your own work.

The work you submit as part of your response to each task must be yours and yours alone. Your written commentaries, the student work and other artifacts you submit, and your video recordings must all feature teaching that you did and work that you supervised.

Guiding Prompts for Task 4, Textbox 4.2.1

a. How did you use academic content language to advance the understanding of the concept being taught in this lesson? Cite examples from the video to support your analysis.

b. How did you engage students in critical thinking to promote student learning? Cite examples from the video to support your analysis.

c. How did you use questioning skills to promote student learning? Cite examples from the video to support your analysis.

d. How did you integrate literacy into the content you taught to promote student learning? Cite examples from any part of the lesson to support your analysis.

Example 1: Met/Exceeded Standards Level

a. Throughout the lesson, I made sure to use the exact vocabulary at least a majority of the time to describe the math that was happening. For example, it was important that students were reminded about combining like terms and what that phrase means, so I used "combine" to talk about simplifying the equation with a student in 1:12, and reminded them of the entire phrase at 10:23. Students have also seen models before, but only printed ones that they drew on or online ones on demos, so I referred to the algebra tiles as a model in 3:34. I used the phrases "solve" (example at 3:34), "opposite operation" (example of a student using it at 8:24), and "algebraically" to describe using the equations and operations (example at 5:20) throughout the lesson. These three have been used throughout the unit but continuing to use precise vocabulary has paid off because many students have adopted the vocabulary when describing their own math, which has made it easier and less stressful for them to do so.

b. Students were invited to engage in critical thinking in their algebra tiles task, which students were working on at the start of the video. They were asked to solve an equation that needed to be simplified first, which they hadn't encountered before. Students had to realize that despite the additional steps, the goal was still to find the value of the variable that made the equation true. They also needed to think back to the beginning of the previous unit to remember combining like terms, or even what like terms are, before they could continue. Even if they didn't combine like terms and moved each constant over separately, they would have been left with -2x+5x=9 and couldn't isolate the variable without combining the two x-terms. They were asked about the difference between a two-step and a multi-step (without using the terms two-step or multi-step) at 9:25, which brought out the idea of simplifying an equation before solving. I also "accidentally" combined like terms across the equal sign at 13:38 but didn't tell them that I was making a mistake on purpose or that I wasn't supposed to do it. They were asked to identify my mistake, and tell me why it was not allowed, instead of just showing an example myself that they could copy down and move on from.

c. In terms of using my questioning skills, I asked students to come up to the board to explain their work, such as at 3:34. While they were up explaining, I would ask them or the entire class what they did and why. Asking students to describe the math they are doing helps them both in articulating their thought processes to others, but also helps them practice using the precise vocabulary they've been learning and exposed to. If a student's justification was unclear to me, I would ask them follow up questions until I understood what they were saying without needing to infer, or if they weren't sure how to phrase it, I would turn it over to the rest of the class to justify. As important and useful as procedural fluency is, having a strong base on the lower levels of mathematics will help them build upon their knowledge in the future, and will aid their memory for a longer amount of time. In order to have that strong base, students need to know at least on a basic level why they are taking the steps that they do. In this unit alone, students are shown many different strategies for solving. Understanding that opposite operations are used to isolate a variable, and that it is typically easier to "undo" the operation that is performed last can make solving significantly easier because those principles apply to all the equations we solve, so they don't have to memorize a bunch of arbitrary strategies that might become jumbled. This can also be seen when I ask the students what I did wrong at 14:30 when I incorrectly combined like terms across the equal sign. I also mentioned that I "did the same thing" on our algebra tiles example to get students who didn't immediately spot the mistake to compare the two, hopefully helping them spot the difference between the two and thus the mistake I made.

d. I mainly planned on integrating literacy by using the sentence frames within the guided notes after the students tried the problems on their own and we discussed them, so that they could come up with the strategies on their own. The first strategy was to combine like terms, while the second strategy was to distribute and then combine like terms, which can be seen at 12:50. I also made a decision at that moment to have other classmates restate what the student at the board did, which was at 4:25. The other students weren't paying as much attention as I expect, so I wanted one of them to look at what was on the board compared to the original equation and articulate what their classmate had done.

Refer to the [Task 4 Rubric](#) for Textbox 4.2.1 and ask yourself:

What evidence from the video is cited to support the candidate's analysis of the following?

- Using academic content language in the lesson
- Engaging students in critical thinking in the lesson
- Using questioning skills in the lesson
- Integrating literacy into the lesson

Why is the analysis complete?

Example 2: Did Not Meet/Partially Met Standards Level

a. I used academic content language to advance the understanding of the concept being taught in this lesson by reiterating past vocabulary they have learned. At the 7:06 and again at the 8:22 mark, I asked students if the graph was positive or negative? Students need to remember what a positive line looks like (going up) and what a negative line looks like (going down) to determine whether their slope is going to be positive(+) or negative(-)

b. I engaged students in critical thinking to promote student learning by allowed them to work as a class to complete a learning activity game "I have, Who has?" (10:00-12:00) Without collaborating and working together to find the correct slopes from the given graphs/questions, they wouldn't be able to finish the game. This allowed students to take ownership of their learning and to think how they arrived at their correct answer and what the next students graph should look like to answer their question.

c. As students were completing the graphic organizers for notes on slope, I asked them "what does 'm' stand for again?" (5:07) to keep replaying that 'm' stands for slope in their mind. I asked this question to keep reiterating 'm' represents slopes because in later lessons they are going to need to know what letter stands for slope when learning about slope-intercept form equation, $y=mx+b$.

d. I integrated literacy into the content I taught to promote student learning by giving student 2 graphic organizers to fill in during our guided notes. In the lesson, students received a graphic organizer on the definition of slope and the type of lines and received a second graphic organizer on the steps to find slope from a graph. Students were asked to write vocabulary words like slope, linear, equation, graph, rise over run, which were mostly all new words they haven't heard before or in a while. Students had to show their understanding of these words by writing the definitions of the words and looking at pictures that correspond with the definitions.

Refer to the [Task 4 Rubric](#) for Textbox 4.2.1 and ask yourself:

What evidence from the video is cited to support the candidate's analysis of the following?

- Using academic content language in the lesson
- Engaging students in critical thinking in the lesson
- Using questioning skills in the lesson
- Integrating literacy into the lesson

Why is the analysis minimal?

Suggestions for Using These Examples

After writing your own rough draft response to the guiding prompts, ask the question, "Which parts of these examples are closest to what I have written?" Then read the 4 levels of the matching rubric (labeled with the textbox number) and decide which best matches your response. Use this information as you revise your own written commentary.

Lastly, using your work and/or these examples as reference, consider what you believe would be appropriate artifacts for this textbox.