

Instruction Commentary

In Instruction Task 2, you will write a commentary, responding to the prompts below. Your commentary should be **no more than 6 single-spaced pages, including the prompts**. If needed, insert no more than 2 additional pages of supporting documentation for the video recordings at the end of the commentary (e.g., digital copies of indiscernible materials or transcriptions of inaudible comments). These additional pages do not count toward the commentary page limit noted above.

1. Which lesson or lessons are shown in the video clip(s)? Identify the lesson(s) by lesson plan number.

The homework review/questions from Lesson 5 are shown in my video clip. Starting at 3:40 I begin writing on the board. The screen is not visible, but it only displays HW#5 which is included in my Task 1 Instructional Material for Lesson 5.

2. Promoting a Positive Learning Environment

Refer to scenes in the video clip(s) where you provided a positive learning environment.

- a. How did you demonstrate mutual respect for, rapport with, and responsiveness to students with varied needs and backgrounds, and challenge students to engage in learning?

At 1:00, when I was trying to help a student correct his response to a homework question, I never once said that he was wrong. Instead I stated why I rounded my answer, instead of leaving the number as a decimal. I then took a moment to remind the class to round appropriately in story problems, especially story problems that involve the population.

Starting at 3:45 when I start going over a problem that a student needed help with, I involve the whole class. Just because one student in particular needed the problem worked out, does not mean the whole class can be neglected. I used this as an opportunity to reinforce essential vocabulary (multiplier), and the concepts we have been learning during the segment.

3. Engaging Students in Learning

Refer to examples from the video clip(s) in your responses to the prompts.

- a. Explain how your instruction engaged students in developing
 - conceptual understanding,
 - procedural fluency, **AND**
 - mathematical reasoning and/or problem-solving skills.

At 1:00 I discussed rounding story problem answers appropriately. This helps develop better mathematical reasoning.

At 3:45 we, as a class, built the function rule for the story problem together. The rest of clip is about creating the multiplier for the function rule, when the story problem gives the rate as a percentage. I stepped the students through setting up the function rule. Starting with our initial amount and then with them “creating” the multiplier from the percentage.

This helps their procedural because I have told them what order they have to write the function rule. This sets up the procedure for creating function rules.

At 6:00 we discussed how to change a rate that was given as a percentage, into a multiplier for an exponential function. This is recall back to concepts we have been working on throughout the unit. This is helping to reinforce conceptual understanding.

- b. Describe how your instruction linked students' prior academic learning and personal, cultural, and/or community assets with new learning.

At 4:58 I had them recall how to write a percentage as a decimal. This is a skill they learned in middle that they need in order to solve story problems with rates that are percentages. They converted percentages prior, but now we are linking it to a real-life situational story problem that uses that skill.

4. Deepening Student Learning during Instruction

Refer to examples from the video clip(s) in your explanations.

- a. Explain how you **elicited and built on student responses** to promote thinking and develop conceptual understanding, procedural fluency, **AND** mathematical reasoning and/or problem-solving skills.

Starting at 4:00 I invited the whole class to help me create my function rule. I asked specific questions like "What do we put next as our multiplier" (4:24), to get them starting on the right foot. By asking a questions using specific vocabulary (multiplier) I avoided getting any weird responses that would not pertain to the unit.

I also used information from different student's responses to help piece together the correct answer. This gives the students better confidence in math, and in their ability to solve math problems.

At 5:08 I start asking the students how to write 1.8% as a decimal. I do not just give them the answer. Several students start shouting out their answers, and I finally put the two most popular responses on the board. Then I ask them which one is right and why. We then discuss how to turn a percent into a decimal. This is helping them socially develop better conceptual understanding of turning percentages into decimals, but also better mathematical reasoning skills.

- b. Explain how you used representations to support students' understanding and use of mathematical concepts and procedures.

Starting 3:45 I created a function rule to represent the story problem we were going over in our homework check.

5. Analyzing Teaching

Refer to examples from the video clip(s) in your responses to the prompts.

- a. What changes would you make to your instruction—for the whole class and/or for students who need greater support or challenge—to better support student learning of the central focus (e.g., missed opportunities)?

At 3:45 when I started working through a problem on the homework, and having the class write the function rule, I gave them the initial value. Instead of having them tell where the initial value comes from I just stated the initial value.

At 6:05 I did not ask a clear and concise question about what is happening to the rate. I just asking "In these problems we are always what?" I would have asked a clear more concise question that hinted at the response I wanted.

- b. Why do you think these changes would improve student learning? Support your explanation with evidence of student learning **AND** principles from theory and/or research.

I would not have given the students the initial value (at 3:45) because part of the process, part of the procedure, in solve exponential story problems is being able to gather the important and essential information from the problem. When I gave them the initial value without them having to read for it, I missed a teaching/reinforcing moment to better reinforce where that initial value can be found in story problems. I would ask better, more clear questions, because I need to have questions that my students understand. My question "In these problems we are always what?" had no prior knowledge connections to help give them even the slightest hint at what kind of response I wanted. I wanted them to say in population story problems we are always experiencing growth, but I did not have a clear question that could have led them there. As a teacher I need to have very transparent questions that make them think, but that are not confusing or ambiguous.

Transcript of Inaudible portions

At 0:50 a student asked an inaudible question.

Student: Shouldn't it be 67,891.3478?

Me: .3478?

At 1:50 a student asked an inaudible question.

Student: Where did you get 1.13 for the rate?

Me: I'll get to that in a minute.

Name: _____ Period: _____ Date: _____

Topic 15 HW#5 – More Modeling Practice

1. An initial population of 750 endangered turtles triples each year for 5 years. Write a rule for the population and find the population after 5 years.

Function Rule: _____

Population after 5 years: _____

2. The population of Baconburg starts off at 20,000, and grows by 13% each year. Write an exponential growth model and find the population after 10 years.

Function Rule: _____

Population after 5 years: _____

3. The population of Henderson City was 3,381,000 in 1994, and is growing at an annual rate of 1.8%. what will the approximate population of Henderson City be in the year 2016?

Function Rule: _____

Population in 2016 (standard notation): _____

Population in 2016 (scientific notation): _____

4. Write a function rule for the table. Create a scenario to show your understanding of what the data represents.

x	y
0	1
1	4
2	16
3	64
4	256

a. Function Rule: _____

b. Your Scenario:
