Instruction Commentary

Write the Instruction Commentary (no more than 6 single-spaced pages, including prompts) by providing your response to each of the prompts below.

1. Which lesson or lessons are shown in the clips?
   Lesson number three.

2. Promoting a Positive Learning Environment
   Identify scenes in the video clip(s) where you provided a positive learning environment.

   • How did you demonstrate mutual respect for, rapport with, and responsiveness to young adolescents with varied needs (academic and developmental) and backgrounds, and challenge young adolescents to engage in learning?

   Many students in this class speak English as a second language, are struggling readers and some struggle in math. Discussion, both teacher lead and in groups, is an important part of class for all students but especially the students with varied needs. Discussion allows learners to hear the information which they may not fully comprehend if they were only reading it. Discussion also allows learners to hear different ideas presented by myself as well as other students which helps learners hear other points of view which can help clarify concepts. In addition, having discussion demonstrates respect to my students as individuals with valuable ideas that should be heard by everyone in the classroom promotes respect.

   A specific example of how I respond to students of varied needs begins 18:39 in my video. I ask students why I asked the groups to report the date range of the most Monarch sightings. No one responded so I changed the wording of my question and said “Take a guess. No one can guess?” I changed the wording to make the question safer and imply that no matter what their answer was it would be an important part of the discussion. One student who did not often participate in discussions and who is an ESL student and a struggling reader took a chance and answered “That they can see how many Monarchs have came during the years.” While this answer was not the exact answer I was looking for, it showed great insight and demonstrated his ability to make inferences as well as the fact he understood on some level that the Monarch population likely fluctuated year to year. I validated his response by telling him that “Yes there is definitely a difference in that.” After validating his response I went on to further question the class. Students responded quickly to those questions which I believe was due in part to the fact they had seen me validate the students response to the previous question.

3. Engaging Students in Learning
   Refer to examples from the clip(s) in your explanations.
   a. Explain how your instruction engaged students in
      • using science concepts, data quality (missing data or inconsistent results), and scientific practices while they are analyzing data during a scientific inquiry

   From 3:33 through 4:40 I presented students with data collected by citizen scientists that recorded Monarch Butterfly Sightings in the Chicagoland area. I gave each group a print out of sighting maps with color coded dots that corresponded to the date of the sighting. Because the sightings were color coded by date range it would
be easy for a learner new to data analysis to estimate when the most sightings occurred by looking at which color seemed to appear most often. This is not an accurate way to collect data so I explained that while looking at the color coded sightings it may appear that one color occurs most often however this is not an accurate way to analyze data. Instead, we must organize the data and the best way to do so is to use a graph.

- interpreting the scientific data collected to construct and evaluate an evidence-based argument of a phenomenon during a scientific inquiry

From 17:50 through 21:40 the learners used the data they had just collected and analyzed as well as knowledge gained over the learning strand to make a conclusion about whether or not Monarch Butterflies arrive at slightly different times in our area. After graphing the data from their sighting maps I asked students for the date range when most sightings occurred. I then went on to explain that I asked for the date range most sightings occurred as opposed to the first sighting because there will always be outliers. For example, Monarchs that arrive very early or very late in the season would be considered outliers. Looking at the date range when most sightings occurred suggest that is when the majority of Monarchs arrive in this area rather than the outliers. I then went on to question the students about conditions or factors that might cause Monarchs to arrive earlier or later in the spring. By doing so, this helped the learners formulate an evidence based conclusion for the question I asked them at the beginning of the learning strand; “Do Monarchs arrive in this area at slightly different times each year?”

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

During the clip from 17:50-21:40 I asked students to use data they had just analyzed as well and information they learned in prior lessons. By using the new knowledge as well as the prior knowledge they were better able to make connections and understand how multiple factors affected Monarch Butterflies.

4. Deepening Student Learning during Instruction
Refer to examples from the clip(s) in your explanations.

a. Explain how you elicited student responses to promote thinking and develop understandings of how to collect, analyze, and interpret scientific data.

After organizing the data from the sightings map I asked students to report the date range with the most sightings at about 18:40 in my video. After all groups shared the date range I asked the question “Why do you think I asked for the dates with the most sightings as opposed the first sightings?” I asked this question to prompt them to think about how to analyze data and what that data means or represents. I also asked the class other questions that required the learners to synthesize information learned over the past week and make inferences. Asking these questions during a group discussion gave the class the opportunity to hear different ideas which would help them think further about the questions asked and help them interpret what they had learned throughout the learning strand.
b. Explain how you elicited student responses to promote thinking and support their ability to use evidence-based arguments to construct and defend an explanation of a scientific phenomenon.

At 19:45 I begin questioning students about factors that might affect Monarch Butterflies. At a 19:55 I ask students to think about what they learned during our research and presentations and then ask the question “What effects might cause Monarchs to come really late some years like this year they came in June?” To develop an explanation that would answer this question, students needed to think back to what facts they had learned during their own research and while listening to other groups’ presentations. One student responded “Maybe the weather” and then I responded “What kind of weather?” requiring her to think more about the question and construct a more detailed explanation of why Monarchs might come later in the season from one year to the next.

5. Analyzing Teaching
Refer to examples from the clip(s) in your explanations.

a. How did your instruction support learning for the whole class and young adolescents who need greater support or challenge?

The questions I asked during this lesson required students to synthesize a large amount of information they had learned over the past week as well as that day. Students did not seem to have a lot of experience with this type of questioning and over the previous week I discovered that many students had difficulty making inferences. The lessons in this learning strand required students to work as a group and in groups students received peer support and were able to hear different points of views and ideas. During in class discussions in this lesson I asked questions that required students to make inferences and students were challenged to use higher order thinking to answer these questions. By asking these questions in class as opposed to asking students to answer the questions individually, students who struggled to make inferences were able to see how questions that required inferences to be made could be answered. After these questions were answered I added more detail and explanation to further promote understanding for all students.

Consider the variety of young adolescent learners in your class who may require different strategies/support (e.g., students with IEPs, English language learners, struggling readers, underperforming students or those with gaps in academic knowledge, and/or gifted students).

b. What changes would you make to your instruction to better support young adolescent learning of the central focus (e.g., missed opportunities)?

I had a very limited amount of time to teach this lesson because the previous lessons took far longer than expected. This lesson was taught on the last day allotted to me to teach the edTPA lessons and I had to rush through it to complete it on time. If I had taught this lesson under different circumstances I would have spent an entire class period leading a discussion about all the factors that affect Monarch Butterflies and how and why these factors affect Monarchs.
c. Why do you think these changes would improve young adolescent learning?
Support your explanation with evidence of young adolescent learning and
principles from theory and/or research including young adolescent development
as appropriate.

I believe spending more time discussing the Scientific Method, the phenomenon of
Monarch migration and how different factors affect this phenomenon would have
lead to a deeper understanding of these concepts. It also would have helped
students make connections between what they did during their project and how it
related to the application of the Scientific Method. I also believe that type of
discussion would help students learn how to analyze and synthesize information as
well as how to make inferences. Knowing how to analyze information or make
inferences are not inherent skills and some students struggle with learning how to do
this. The more practice they receive and the more modeling they are exposed to will
help them learn how to use and apply these skills. Had I lead a discussion that lasted
all period they would have been able to practice coming up with answers to
questions that required them to synthesize recently learned information. It also would
have given them the opportunity to observe their peers modeling these skills when
questions were answered in class.