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ED 632

Write a reflection that addresses most of the following:

- Describes the central focus and purpose for the content you will teach in the learning segment.
    - My central focus is the students learn how to graph a linear equation (when you plot the points, it goes in a straight line). There are many aspects to a graph and the idea is that students can recognize this is several ways. The first is the graph itself. Students find the slope with "rise over run" and the y-intercept by where the line crosses the vertical axis. Then students focus on numerical points only and are able to determine the equation of the line solely by knowing two points. Ultimately, the students can go back and forth between a graph, an equation, a written description, a coordinate table and just two points. This is the foundation for all graphing for the next 4 years.
- Explain how your plans build on each other to help students make connections.
    - Math is easy to build on. It relies on the building of knowledge and can usually only be obtained by previous concepts. First the students visually see it. Then the class discusses the concept and begins experimenting with it. After a rule of graphing is established, the class then begins using formulas and tables to ultimately be able to determine the equation of the line. This is the longest concept I teach in any of my four subject. I use technology, physical reenactments, discussion, cooperative competitions, and good ol' direct instruction as needed. With that said, I am continuously looking for new and improved ideas of how to present the information and how to reach each and every student.
- Personal/cultural/community assets related to the central focus—What do you know about your students' everyday experiences, cultural backgrounds and practices and interests?
    - I often relate the idea of a linear equation to that of buying things the students seem to like as a whole – candy and using money. I do have a nice diversity in cultures and ability at my school. My students, or any variety of students, can relate to having to use money to get something of need or want. For example, I have $20 and am going to the candy store. I have a great sugar tooth that must find satisfaction by slowly biting into a Caramello bar. After taxes, a king-sized Caramello bar costs $2.13. How many Caramello bars am I able to purchase? How much money do I have remaining? Students will create an equation and be able to think about this in the real world. Their world. Math does not have too many differences in cultural backgrounds, experiences or practices and interests. We all have to know how to keep track of money; how to use the correct measurements; how far we have to walk, bike or drive to get to our friend's house. Math tends to be a universal language that is spoken by all.
- Describe and justify why your instructional strategies and planned supports are appropriate for the whole class, individuals, and/or groups of students with specific learning needs. (Consider students with IEPs, English language learners, struggling readers, underperforming students or those with gaps in academic knowledge, and/or gifted students.) (UNDERSTANDING OF PEDAGOCIAL CONTENT)

- I often teach my students with the foresight of their needs.   This wonderful gift comes through communication, data, and reflection. Communication to parents so that everyone is on the same page and has the child's best interest in mind. Communication with fellow teachers who also have the opportunity to educate the same students which allows us to develop consistent practices for those students who need that form of structure. Data allows teachers to determine if a student needs to be re-taught, reinforced or RTIed (put in a Response To Intervention support class). It also helps teachers find gaps as a whole class or for the individual. As an educator, it is our duty to reflect on all communication, assignments, interactions, workshops, etc. so that we can be continual learners as well. Even though I have achieved great numerical success as a math teacher, I will only get better if I keep saying to myself, "What can I do better? What would I do different next time? What else should I add for tomorrow's lesson based on today's lesson?" Reflection is our best growth model.

- Describe how your planned formal and informal assessments will provide direct evidence that students have developed the learning objective. (ASSESSMENT OF STUDENT LEARNING)

  - Data rules in math. I've already covered most of it but I will say that I work hard to find the gaps and figure out ways to reach all students. I am continually assessing and reacting to data and I often take days to do things like group quizzes to help reinforce similar thinking and discussion of ideas. Math is always about numbers and always leads to more ideas down the road.

- Describe the assessment you used to develop the students' developing knowledge and identify the evaluation criteria that was used to analyze student learning. (ASSESSMENT OF STUDENT LEARNING)

  - Again, math is very specific. I can tell when a student's only issue is with the distribution of a negative. I can see when a student does the incorrect order of operations. I am able to determine if a student is able to plug in numbers for a formula and then simplify it for the correct answer. In the case of this five day lesson, I can tell if students understand an equation for a line versus understanding what each variable does when manipulated in the line. That may sound a little confusing, but the idea is based on a progression of assessment questions that allows me to see if the mistakes and mathematical, or conceptual. I can live with mathematical mistakes – we all make those, but the conceptual mistakes determine what I need to re-teach. For example, when solving $-3(x + 5) = 30$ there can be two really different mistakes. The first is mathematical: the student distributes the -3 and ends up with $-3x + 15 = 30$. This mistake (should be minus 15 and not plus 15) is mathematical. This is the "easy fix" because the concept and order was correct. If a student subtract 5 from each side first to get $-3x = 25$, then it is a conceptual mistake. This is much more difficult to overcome and can only be overcome by one-to-one teaching. There has to be a rich discussion of this and several problems must be done together, and alone. I often tell my students to use the calculator. It is a tool for their convenience. I am not determining if they can multiply, but seeing if they can do the correct operation in the correct order.

Part 4 **Bloom's and Multiple Intelligences Tables**

The last part of the assignment you will summarize (for each day) the levels of Blooms and the Multiple Intelligences that were covered each day. A summary of each is given below. You may copy and paste each table and use them as a template for Part 4. The second part of this section is to answer the following question:

- What might you do differently the next time you teach this topic/subject? Support your explanation with principles from research and/or theory. (UNDERSTANDING OF THEORIES OF PEDAGOGY AND LEARNING)
    - After finishing Bloom's Summary, I realized that this can really help with my data driven view of how to assist students. I can take language directly from the summary and set it as my objectives for the day. I can use the language to get students more engaged in the importance of the assignment. It will especially allow me to differentiate a higher level. According to Heacox (2002), teachers should be asking themselves the essential question of "How challenging is this learning activity?" (p.68). I found the Challenge Levels in Figure 7 (p.69) to be invaluable and I will be discussing its merits at my next PLC.

Bloom's Summary

Day	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
1	Recall what rate of change is.	Understands what each aspect of rate of change is	Demonstrate how to find slope using the formula	Compare rate of change to slope	Formulate slope from rate of change	Determine the value of slope
2	Recall what rate of change, slope, rise over run, m, and change in y and x is.	Understands what each describing word about slope-intercept mean	Construct a linear equation	Solve for y to get slope-intercept form	Able to discuss plants that they may have or seen	Predict the outcome for the unseen term
3	Recall what rate of change, slope, rise over run, m, change in y and x, and slope-intercept form	Understands the relationship between slope, the y-intercept and the graph are	Reformat a second linear equation in to slope-intercept form	Compare and contrast between point-slope vs. slope-intercept	Hypothesize which formula is more practical to use.	Evaluate for real world situations
4	Identifying all vocabulary on graphing	Understands the relationship between slope, the y-intercept and the graph are	Translate different aspects of linear equations	Differentiate between using point-slope vs. slope-intercept	Refine linear equations to create a connection	Justify using point-slope vs. slope-intercept
5	Recall what rate of change, slope, rise over run, m, change in y and x, and slope-intercept form	Understands the relationship between slope, the y-intercept and the graph are	Apply their knowledge of linear equations	Experiment with different variations of a linear equation	Invent new problems for others to solve	Judge your fellow peers and their math problems

Day	Verbal Linguistic	Logical Mathematical	Visual Spatial	Bodily Kinesthetic	Musical	Interpersonal	Intrapersonal	Naturalistic
1	YES	YES	YES	NO	NO	YES	YES	YES
2	YES	YES	YES	NO	NO	YES	YES	YES
3	YES	YES	YES	NO	NO	YES	YES	YES
4	NO	YES	YES	NO	NO	NO	YES	NO
5	YES	YES	YES	YES	NO	YES	YES	YES

Day 4 is the one that stands out a little. This is the IXL day that is all about practice and not about exploring, not about getting up and moving, not about investigation, not about discussing (except when stuck – this was an iffy), and certainly there was no music. Math does require this redundancy to be successful. Often times, memorization is necessary in math, and practice makes perfect.