What Makes This TEAM Reflection Paper Successful?

Some specific examples/evidence that <u>contributed</u> to the success of this paper are provided below.

Module Three: Instruction   Grade: 7   Subject: Math

Criteria I: Development of New Learning *(How the teacher developed new learning and what was learned)*

How the teacher developed new learning:

- Read *How to Differentiate Instruction in Mixed-ability Classrooms* by Tomlinson
- Read "Constructing Complexity for Differentiated Learning" by Little, Hauser and Corbishley
- Discussion with mentor and math curriculum leader

What the teacher learned:

- "After reading, I realized that tiering would help me meet my goal of differentiating by readiness, while flexible grouping would help me to explore different instructional settings."

- "I determined that I would use one of the methods in the article. This method was to alter the number of facets that students must work within a problem. By adjusting the number of skills required to solve a problem, the complexity of the problem is also adjusted. This strategy fit well with my algebraic unit."

- " … I needed to closely examine my activities to determine if they were really 'group-worthy.' She challenged me to think about whether I was grouping students together because it benefited me to have them organized in this way or because they needed the additional support of working with a partner."

Criteria II: Impact on Practice *(How the teacher's practice is different)*

- "I created three tiers for my first 'solving equations' assignment, targeting students who were: at grade-level, in need of a challenge and in need of extra support. I adjusted the number of facets by choosing larger numbers for the challenge group to be sure that they were practicing the new skills learned in class, rather than only using less complex mental math strategies. Anticipating that the group needing extra support would struggle to get started, I provided an additional scaffold by asking them to identify the variable and operations in the equation."

- "I created a choice board that included four skills that are essential when solving equations: defining vocabulary, solving an equation, checking an answer, and writing a story problem to model an equation. For each skill, students had a choice of two or three options. The final product had nine squares and students had to pick three in a row. I arranged the tasks so that all students had to meet at least three of the objectives."

Criteria III: Impact on Students *(How student performance/learning has improved as a result of changes in the teacher's practice.)*

- "Students were quick to initiate activities that were matched to their needs, with fewer questions and disruptions. Student productivity in class was greatly influenced … students who were inconsistently successful became experts on the new material and sometimes taught it to their peers quite confidently and accurately. For example, I heard students say, 'Do you want to check your work against mine?' and 'Let me show you how I solved the equation.'"

- "Twelve out of sixteen students had a score of 75 percent or higher on the post test, while only six of these students reached this goal on the unit pre-test. Individual students made significant gains through the course of the unit. For example, ten students improved their post-test score by at least a full letter grade."

Indicator: 2. Teachers implement instruction in order to engage students in rigorous and relevant learning and to promote their curiosity about the world at large by: Using differentiated instruction and supplemental intervention to support students with learning difficulties, disabilities and/or particular gifts and talents.

Goal:

I will investigate and learn three ways to differentiate instruction to implement a series of lessons within a unit of instruction. I will use these differentiation strategies to help students in my seventh grade math class improve their algebraic skills. (Based on Indicator 2)

Initial Summary:

Using the CCT Performance Profile with my mentor, I identified differentiation as an area of my instruction that needs improvement. I realized that I have been predominantly teaching in a whole group setting, rather than varying my instruction and matching it to my students' needs. When I do make modifications or offer extra help, this often occurs with the assistance of another support teacher or tutor. Whenever I have attempted to differentiate, I have struggled with how to manage having students working on different materials. I have recognized this need for differentiation throughout the year as I have been confronted with my students' varied needs for support and enrichment, but have been unsure how to make this happen, successfully. Struggling students have voiced their frustration with understanding the content, while other students have said the content is too easy for them. I need to be more responsive to all students in my instruction.

Reflection Paper:

I began the module by completing the CCT Performance Profile on Instruction for Active Learning. My mentor and I discussed my self-analysis as well as my own concerns about students who were not working at the appropriate level of challenge. I had been approached previously by students who reported feeling that the course material was too easy for them but I also had students who were struggling to master the content I was teaching. I was beginning a challenging unit involving foundational algebraic concepts and was concerned that if I didn't make a change, many students would not master this material, causing them to struggle in future classes. Through discussions with my mentor, I came to the conclusion that differentiating activities would be an effective way to begin to address the issues in my classroom. By designing and implementing activities to meet students' specific needs, I could better support this unit and my students, with an intended outcome of increasing student achievement for students who were struggling and challenging those students that needed it.

I already had an understanding of differentiation theory from my master's studies, but did not have sufficient experience putting it into practice. To focus my work and make this a successful endeavor, I read *How to Differentiate Instruction in Mixed-ability Classrooms* (Tomlinson, 2001) which led me to select three specific differentiation strategies to focus on: tiering, flexible grouping and choice boards. After reading, I realized that tiering would help me meet my goal of differentiating by readiness, while flexible grouping would help me to explore different instructional settings. I also chose to experiment with choice boards because I was interested in seeing if self-selecting learning activities would further motivate and engage students.

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To learn more about how to create tiered activities, I consulted with our math curriculum leader. He directed to me to an article called "Constructing Complexity for Differentiated Learning" (Little, Hauser, Corbishley, 2008) which was very useful. He and I discussed the article and I determined that I would use one of the methods suggested in the article. This method was to alter the number of facets that students must work within a problem. By adjusting the number of skills required to solve a problem, the complexity of the problem is also adjusted. This strategy fit well with my algebraic unit. I created three tiers for my first "solving equations" assignment, targeting students who were: at grade-level, in need of a challenge, and in need of extra support. I adjusted the number of facets by choosing larger numbers for the challenge group to be sure that they were practicing the new skills learned in class, rather than only using less complex mental math strategies. Anticipating that the group needing extra support would struggle to get started, I provided an additional scaffold by asking them to identify the variable and operations in the equation.

I made the assignments look similar by using the same template and asking each group the same number and type of questions. This design made it easy to create new tiered activities because I could create one version of a task and then alter it to fit the needs of the other groups of students. To organize students into groups, I used a playing card symbol in the corner of each paper to communicate the assignments. Since I changed the groups and symbols frequently, students did not associate any value to the symbols and moved into their groups quickly and with less complaints than before I used this management strategy.

As I continued to use tiered assignments, I made changes to how I developed the different tiers based on observations of student frustration and assignment compatibility. When I used the first activity with students, I found that the students in the extra support group had the most success initiating and completing their work. I realized that all students could benefit from the scaffold step and decided to include this in the other tiers as well. For the students that needed extra support, I grouped problems together by type so they would have a chance to practice a few of each type before moving on to the next one. I also avoided giving them difficult calculations, which might distract them from the main skill. With the on-level and challenge groups, I mixed up the types of problems so students would have to practice selecting the appropriate skill that they needed to use. I also included more equations containing negative numbers and fractions in both groups. After seeing that my extra support students were not finishing their assignments and the challenge students were finished early, I adjusted the number of problems for both groups. I found that when students had a task that was well-matched to their current level of understanding, this resulted in less frustration and more time spent on task.

One issue I had to resolve was how to manage homework when students were working on different tasks in class. Initially, I created differentiated homework assignments or made the class assignments too long so they spilled over the class period and became homework. This caused problems when I tried to review the work during the next class. Students were inattentive when I discussed problems that were not assigned to them and some felt it was unfair that they were doing "harder" work. My mentor suggested that using some shared activities would help bring the class back together and give value to all activities. As a result, I decided to create differentiated tasks that could be completed in one class period, and then have a common homework assignment. Since these assignments were shorter and had a clear deadline, students were more productive in class.

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I started off assigning the groups for my tiered assignments based on my own assumptions, but quickly learned that my assumptions were not always accurate. I could tell that a task was not well-matched to a student when they finished quickly or grew very frustrated with the task. To avoid this situation, I started using assessment data, such as exit slips or selected homework problems, to form the groups that would work on the tiered assignments. I was surprised to see that the groups did not end up being constructed in the way that I would have expected them to be. In several cases, students that I often thought of as "struggling" ended up in the advanced groups, while those who I considered to have higher abilities were in need of extra support on notation or procedures. This reminded me that even though students may struggle or excel in an earlier unit, they may not respond to new and unrelated concepts in the same way. When I based my decisions on data, I felt more confident about my groupings and my understanding of what students needed to work on. I was able to use the assessment information to talk with students about their work and set goals for each group. This helped them to better understand and accept the differentiated activities. Students also benefited because they were more successful when the tasks were matched to their current levels of understanding.

When I started using group work, I had a conversation with my students about the purpose of collaboration and the behaviors that would help them to be successful in a group. I used their feedback to begin building group norms which were: participate, be respectful, be on task, and work as a team. Even after this conversation, I still had several instances where students would socialize with their partners, but not support them mathematically. In more quiet groups, students would often work independently while sitting next to each other. To increase the collaboration I was looking for, I tried to make group members more accountable to each other. At my mentor's suggestion, I created a task where students were required to work together and complete an independent one-question quiz. I offered the students bonus points if both partners answered the question correctly. It was my hope that this would motivate students to help each other so they could receive the extra points. I did have students that worked well in this situation, but I was frustrated when some students continued to work independently or socialize. I think that many students did not know how to support each other in this task.

My mentor and I discussed my grouping strategies and decided that I needed to closely examine my activities to determine if they were really "group-worthy." She challenged me to think about whether I was grouping students together because it benefited me to have them organized in this way or because they needed the additional support of working with a partner. This was an interesting idea for me because it challenged my thinking about flexible grouping. I had always thought that using flexible groups meant that students had to work together. I realized that if students do not need one another to complete a task, they should be working independently. This means that I can reserve collaborative group work for activities that require students to support each other and share ideas. When I need students to be grouped together physically but still work on their own, I have learned to ask them to move to a location in the room that is shared by others working on the same assignment, but continue working independently. Since I have a better understanding of the roles that I want students to play, I am better able to communicate those roles. As a result, students are now demonstrating the desired behaviors in each setting.

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The last differentiation strategy that I tried was a choice board. I knew from Tomlinson's book and my conversations with my mentor that I needed to pick objectives that I wanted all students to be able to meet and then create multiple ways of meeting those objectives so that students could choose their favorite. After observing my mentor using choice boards and talking about them with her, I created a choice board that included four skills that are essential when solving equations: defining vocabulary, solving an equation, checking an answer, and writing a story problem to model an equation. For each skill, students had a choice of two or three options. The final product had nine squares and students had to pick three in a row. I arranged the tasks so that all students had to meet at least three of the objectives. I liked creating this assignment because it required me to be creative and design tasks that might appeal to students in different ways. Students initiated the activity quickly, showing that they enjoyed having choices of tasks.

Overall, students responded very well to the differentiation activities that I used in this unit. Students were quick to initiate activities that were matched to their needs, with fewer questions and disruptions. While homework completion did not increase significantly, student productivity in class was greatly influenced. Students that were already successful continued to be so, but students who were inconsistently successful became experts on the new material and sometimes taught it to their peers quite confidently and accurately. For example, I heard students say, "Do you want to check your work against mine?" and "Let me show you how I solved the equation." Twelve out of sixteen students had a score of 75 percent or higher on the post test, while only six of these students reached this goal on the unit pre-test. Individual students made significant gains through the course of the unit. For example, ten students improved their post-test score by at least a full letter grade. While there are always other factors involved in student achievement, I believe that the activities I created contributed to the positive gains that I saw. Because I matched activities to students' needs, they understood the material and felt more comfortable with the work, which then led them to be more productive and successful.

As I look back at my previous practices, I realize that I was not using data to my advantage and was relying on my "feel" of where students were with the material. Because I was teaching to the whole class, I ended up missing more students than I actually reached. This important first step of data gathering confirmed for me the importance of approaching differentiation as an informed teacher on a number of levels. As I reflect over this process, I realize that I have made gains in multiple areas of my instruction. I think that having had permission to experiment with different teaching strategies has encouraged me to be more creative and responsive to student needs. In particular, I have noticed that I am now using assessment data to inform my decision making. This seems to be a positive cycle because to gather assessment data, I am engaging students more and increasing accountability, which also helps support student achievement. Because I am also being reflective, if something does not go as planned, I have a way to learn from my mistakes and make adjustments so that it will work better next time.

The unit that I worked with, for this module, was extremely procedural, which lent itself nicely to tiering activities and gathering assessment data to form groups. In the future, I will need to explore both of these differentiation strategies in the context of more conceptual units to see how to best use them to support my students' learning needs. I would also like to continue experimenting with choice assignments which allow students to work in ways that best fit their learning styles and preferences. This is another area of differentiation that I have just started to explore.

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