

# Sample Beginning Teacher Journal 7/20/12

## Module Four – Assessment for Active Learning

### Sample One – Grade 4, Mathematics

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#### Beginning Teacher Journal

*Use My Personal Journal to record specific and detailed information and examples related to your module work. Your Journal should include descriptions of such things as*

- How you developed new learning, e.g., readings, conversations with your mentor and other colleagues, professional development activities;
- How you applied your new learning and what happened as a result, e.g., how your practice changed, the impact on students; and
- Your ongoing analysis and reflection related to successes and continued challenges, cause and effect thinking, insights and /or concerns.

*You will use the specific examples/evidence from your journal to help you determine if your professional growth plan is working or if it needs to be modified.*

#### **March 15, 2012**

Met with my mentor today to begin reviewing the CCT Performance Profile for Assessment. We discussed most of the indicators. I'm planning to give a pre-assessment for an upcoming unit. Will bring results of that for next meeting with my mentor when we discuss the remaining indicators.

#### **March 22, 2012**

Gave a ten question pre-assessment for adding and subtracting fractions using pictorial representations to assist and no pictorial representations. Students struggled a lot with this skill. Several students almost did not complete the pre-test because they were so concerned about it and had no idea about how to answer the questions. Most of the class does not understand the concepts, which means that this is a much needed series of lessons.

Met with my mentor to discuss the remaining indicators.

#### **March 29, 2012**

Met with my mentor and the district math coordinator to go over how to include more differentiation and formative assessment along the way. Discussed using independent work as formative assessment after each lesson and asking one question as an exit slip or quick assessment to see if students are grasping the concept for that given day. This will allow me to pull small groups or individuals for focused reinforcement before the

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next whole class lesson.

#### **April 1, 2012**

First, the use of the SMART board and its technological advantage enhanced the quality of the instruction in the beginning and throughout the lesson. It allowed me to visually display the pattern blocks and manipulate them to demonstrate arrangements that equal one whole. Secondly, having students sit together directly in front of the SMART board proved an effective management tool because students focused on the SMART board instruction instead of materials at their desk. This prevented the students from becoming overwhelmed by the materials before I had a chance to explain the concepts. Third, letting students use pattern blocks independently was helpful because they often need manipulatives to visually construct the the partitioning and fractions. Fourth, the way I systematically introduced the pattern blocks and each of their fractional values - first the yellow shapes that equaled one whole followed by the red trapezoids, blue parallelograms, and the green triangles, was useful. Lastly, I liked how I quickly reviewed some geometry with polygons within this lesson.

Evidence of student learning comes from both the whole class lesson at the SMART board and from their independent work. Also, their responses to questions posed to the group during the initial instruction as well as their "turn and talks" with a partner offers evidence. In addition, learning occurred during a class discussion about how many triangles equaled a hexagon whole and how we could write that in algebraic terms. Finally, I plan to look at the student's individual pattern block sheet to see if they correctly labeled and divided the whole yellow hexagon into six triangles and wrote the algebraic equations.

Based on the student learning, I realized that most of my class understands the concepts of one type of pattern block adding up to a whole. However, I want to pull a small group and re-teach this skill. I want to re-teach to the class how we express equivalent fractions with one type of pattern block using algebraic and fraction equations. As a new concept, students could benefit from additional practice before we move onto adding fractions with unlike denominators that use different pattern blocks to make one whole. I feel that students were not confident enough with this and it would be helpful to review or re-teach this lesson so that they have a strong foundation from which to add additional lessons with pattern blocks.

One thing that I noticed was that having an orange triangle instead of a green triangle on during the SMART board instruction was not problematic for students. I did not realize it because I have difficulty with colors. I think students were able to figure it out and understand the "g" in the algebraic equation meant "green." Also, I was surprised by the limited exposure students had with algebraic terms and equations, such as with the concept "1y" and "y." Finally, I think students knew a little about how to create equations, but did not understand fully that " $2r = 1$ " is the

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same as " $1/2 + 1/2 = 1$ "

#### **April 5, 2012**

I graded the formative assessment related to Thursday's lesson. Only a small handful of six students fully grasped all of the concepts. It is interesting to look at this group because it is not my typical students who perform well in Math. Two of the students struggle greatly and have weak number sense and understanding of basic facts. However, I think they are benefiting from the hands-on use of the pattern blocks and can see the actual trades being made. This means that about three-fourths of the class has widely ranging misconceptions. Many students look at  $3 \frac{1}{6}$ s separately rather than assuming that it is  $\frac{3}{6}$ . One stronger math student had a big misconception when she added the numerators and the denominators. These assessments show me that I am going to move several students onto an additional activity/game to reinforce the concepts that they already mastered. The rest of my class I think I am going to re-teach the concept of adding fractions with unlike denominators and re-teach how to write about them. This will be done as a whole class and then I think I will break them into working groups this time. I plan to give another formative assessment to see what they have learned.

#### **April 7, 2012**

Today's differentiated lesson went very well for the accelerated group with enrichment activities. For the rest of the class, I used the SMART board to review how to label and trade pattern blocks to equal one whole and how to express that activity in algebraic and fractional terms. One difficulty was keeping this group engaged since they already reviewed and corrected a worksheet from the previous lesson. Several were done quickly while others were still struggling. I am finding it difficult to manage multiple groups when I differentiate, especially while I work with those who struggle and require additional reinforcement. It is a challenge to keep the others engaged in meaningful tasks. At the end, I gave another two question formative assessment.

#### **April 8, 2012**

I graded my formative assessments, which again left me with two groups. Four of the six students to whom I did not re-teach the lesson material, got 100%. However, two students who are usually weaker math students with weak number sense did not show the same kind of understanding compared with the first formative assessment. Several students showed a new understanding of the concepts. However, some students still do not understand the steps needed to solve these pattern block problems, by adding and then changing to fractions that can be added together to equal one whole. A solution might be a small strategy group focused on how to write about the problems using the algebraic and fraction representations. Moreover, a couple of students do not understand the underlying concepts of fractions, so I plan to do a lot of direct one-on-one or pairing instruction with these two boys.

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**April 13, 2012**

Gave probe #2 today.

**April 16, 2010**

I graded probe #4 today, which followed my first lesson with pattern blocks. This one added pattern blocks with unlike denominators to equal two and one-thirds. The results are interesting. I have three students this time that got all four questions correct, yet I have a large group of 9-11 students who only got one wrong. I see the benefits now of the differentiated work we did before this on equivalent fractions, where we had to add fractions with unlike denominators. The results mean to me that more than half my class has a firm understanding of the concept after initial instruction and the first probe about adding unlike denominators. However, I am not so certain this will be the case with subtraction.

**April 26, 2012**

Today's lesson proved difficult to differentiate. I had only three students who completely grasp the concept based on the four questions from Probe #4. Eight students are still having difficulty with accuracy and trading correctly. A group of 10 students got every question wrong and appear not to grasp the concepts of adding fractions with unlike denominators. One interesting development is that two students (J. and D.) rely on inaccurate strategies such as adding the denominators and numerators. These two students are usually successful in math, but are having difficulty with accepting a new strategy. I decided to split up the large group who needed significant re-teaching of the concepts. Mrs. S. took one group and worked with them while I planned to take the other group. However, I find it difficult to manage my time. I cannot start all of the groups at once. Therefore, two groups had to wait while I was giving directions to my three students that I am accelerating. This group enjoyed the task that I gave them since it was a real life challenge problem dealing with creating a stained glass window for a school and figuring out the fractional representation of the whole of each pattern block used. Moreover, they seemed to really like this problem and kept themselves busy with it. Next, I took the group that needed some quick re-teaching of a few concepts

- Mrs. S.'s group was loud. Made it difficult for my group.
- My small group was not focused and D., J. and N. who understood the concepts, quickly supported the discussion with the group.

**April 28, 2012**

- Whole class instruction this time with SMART board
- Students had no trouble with subtraction
- Modeled first three together problems, students seemed confident today
- Showed how you could trade for larger common denominator but smallest was best

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- Also talked about putting fraction in lowest terms
- Seemed to “click” or make sense for most students now
- Students who do not understand will not draw pattern blocks or use them correctly
  - Some students till using ineffective strategies
- SMART board use was effective to show trades
- Took H. one-on-one and made her do trades with me. She finally got it and could draw them on her probe. Only one wrong and that was an addition mistake.
- Ran out of time though to fit probe in/Had to finish it after recess

#### **April 30, 2012**

- Graded probes
- Most all of class got all correct
  - C. did addition instead of subtraction
  - H. one wrong from addition error
  - K. and M. had two wrong – almost have it – Suggest small group for them

#### **May 4, 2012**

- Mrs. M. came in and taught fraction lesson with Math Explorer Calculators
- Students engaged and high interest
- It seemed to reinforce Lowest Form and Improper verses Mixed numbers for many students
- Students also seemed to grasp factoring out a factor to reduce it to lowest terms
- Higher performing students seemed to really benefit from this lesson
- Students who are still struggling could follow along well but it did not broaden their understanding

#### **May 7, 2012**

- Started with whole class and moved in working with groups
- Reviewed keys and functions of calculator
- Did an extension of yesterday’s calculator lesson
- Students could accurately compute adding and subtracting fractions with unlike denominators using the calculators

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- On backside of sheet, students challenged themselves with additional problems
- Worked first with large group of students to use calculators to turn stained glass windows fraction number sentences into lowest terms before adding them. Several had to finish first.
- Worked with K. and H. using the calculator to turn improper fractions into mixed numbers.
- Lots of students kept interrupting because they were having difficulty with independent work
- Did not get to three boys – S., N., and M. who need the most interventions
  - I will work with them in the morning
- During taking of probe-
  - S.W. cannot apply strategies
  - A lot of students were thrown by the introduction of fourths
  - I should have done more work with fourths, difficult since pattern blocks do not show fourths.

#### **May 13, 2012**

- Realized need for students to revisit their Pattern Block Creatures
- Wrote sticky notes that hinted how students could fix their work
- Reviewed with whole class using SMART Board, the process of completing Pattern Block Creatures
  - Explained how whole thing cannot equal one whole
    - I believe students experienced confusion about Stained Glass window process
- Several students checked their work with the Math Explorer Calculators
- S. not trading any to check his work
- Both J., and C. thought the creature had to be equal to one
  - This is surprising since two of the strongest conceptually
- S.W. did a good job with this but did not add fractions correctly at first
  - Fixed her mistake
  - K. - Got improper fraction – fixed it
  - N. – Got improper fraction of  $\frac{24}{6}$ , ended up changing his answer for a final answer of  $\frac{4}{6}$ . Not grasping concept. How can  $\frac{4}{6}$  be equal to the entire creature
- H. – Very frustrated, impatient – Added numerators and took largest denominator as common denominator
- Worked one on one with her
- Worked one on one with N. – Said  $4 + \frac{10}{10}$  equals = 5

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- Where did he get 10/10? Number of pattern block
  - Big misconception – invents own strategies
- Had to write the algebra and steps out for him, after which he could easily verbalize the process

#### **May 20, 2012**

- In correcting the final post-assessment – work needs to still happen around adding fractions with unlike denominators that includes fourths and mixed numbers. Most of the class did well with equivalent fractions. For numbers seven and nine dealing with adding and subtracting fractions with unlike denominators involving fourths, only 50% and 59% respectively, of 22 students got those questions. Also only 55% got number eight correct while only 64% got number ten correct. Both questions eight and ten dealt with adding and subtracting fractions greater than one.

Most students mastered equivalent fractions and adding and subtracting fractions with unlike denominators pictorially and with  
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- s that are less than one.
- Overall, 64% of the class reached proficient, meaning 70% or higher on the post-assessment.
- The average percentage from the pre- to post-assessment went from 23% to 71%. The majority scoring at proficiency or higher, this went from 8% to 64%.