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Lesson Plan Critique for a Money Unit

On Friday, March 23rd I taught a lesson to Mrs. Kindley's first grade class. The lesson focused on counting coins. The standard of learning that was addressed was 1.10 and involved students identifying the number of pennies that are equivalent to a nickel, a dime, and a quarter. They also determined the value of a collection of coins whose total value was less than 100 cents. Prior to my lesson the students gained previous knowledge of the values for each of the coins and had the chance to identify the values of mixed groups of coins. During my lesson the students created groups of coins that totaled a specific quantity (\$0.50). Materials used in this lesson included small blank booklets for students to record their coin combinations on, plastic and virtual coin manipulatives, and a computer with connection to a projector.

Before starting my lesson I set up containers of manipulative coins that had 10 pennies, 10 dimes, 20 nickels, and 4 quarters for each table of four students. I also turned on the projector and set up the computer to have the virtual manipulative website (http://www.eduplace.com/kids/mw/manip/mn_k.html) open and ready to use with the class. Next I gathered the students together on the rug to begin my lesson. First I had the students review with me the value of each of the coins by clicking on a coin on the website to show it on the whiteboard at the front of the classroom. I wanted to make sure that the students knew the coin values before having them jump into coin combinations. Next I had them help me explore the website to show the different tools that were available to use for practicing coin sorting. I also had the class help me make different values (five cents, ten cents, and twenty-five cents) by using different combinations of coins. Next I posed a series of questions including a main concept to be explored of "How many different ways are there to make \$0.50?"

I had the students work with a partner at their table to come up with different combinations for their booklets that they were making. I did not feel that grouping the students based on their assigned seats was a terrible idea and I did it to save time for forming buddies, but for some of the students this grouping did not work well. One of the girls nearly cried because she was supposed to work with a boy that sat across from her. Both my cooperating teacher and I told her that it was not that big of a deal and they should all try to work together to check each others answers and come up with a variety of answers. She did not seem very satisfied with this idea and continued to whine about how he was not working with her the entire class period. I

tried to mediate the situation, but even while I was watching she refused to communicate with him or work with him to check answers. Finally, I just told them that they could work individually at their seats if they could not work with each other. I felt like this response was appropriate for their situation and would probably continue to do something like this in the future. One change for the future may be to have the students swap partners every few minutes so that they can get use to working with different people.

Each of the students was given a small blank booklet that had ten pages in it. They were instructed to draw the coins they would use to make fifty cents, and to try to come up with as many options as possible. One major issue I had with this activity was that some of the students, who are typically better at math and know how to count coins really well, gave up after they had found about five different combinations. Some of the students even went so far as to tear off “extra pages” from their booklet and throw them in the trash. My cooperating teacher and I noticed this and were flabbergasted by the fact that they stopped trying after they had recorded only a handful of examples. In order to have them realize that they were in fact not finished finding all of the possible examples, I told the class that there are forty-eight different ways to make coin combinations that equal fifty cents. My cooperating teacher had the students take the pages they had trashed back and reattach them to their books. At that point I realized that I should probably explain the activity better in the beginning and let them know that I did not put more pages than there were answers.

Throughout the activity, my cooperating teacher and I walked around the room to check on the answers of the students. I asked them how they knew their combinations were correct and had them check their answers. Once I noticed the students’ had slowed down a lot finding answers I had the class put their coins away and meet me at the front of the room again. Next I had students share their different combinations with me and use the virtual manipulatives to show the entire class what their combination looked like. The class of 23 first graders came up with fourteen ways to combine different coins to make fifty cents. Their answers are listed on the attached sheet entitled “Making 50¢”. I kept track of the answers as we reviewed so that the students would not repeat their answers. In the future I think I would have the students help create a poster with coins with the different answers. Although the class came up with a lot of different answers, the end of class seemed to drag on as the students volunteered their answers

and helped show them virtually. In the future I might not prolong the discussion as long, especially when the students know it is time for recess.

Assessment during the activity involved informal evaluation. By walking around the class I was able to determine which students understood coin counting and which students were still struggling to realize the value of the coins. Although the students created booklets during class, the booklets were only used to assess understanding. They did not receive a grade for the activity, but all of the students seemed engaged. The students also learned how to use the virtual manipulative site. They learned that they could check their answers using the “123” button and that the coins could be flipped and moved using the different buttons available. At the end of the lesson my cooperating teacher and my students asked me for the web address so that they could use the site in the future. Some of the students told me that they wanted to practice at home with their parents. I found it rewarding to know that I was able to introduce my class to a new technology resource that was easy to understand and use.

Overall I learned that I currently do not have all of the classroom management skills that I will need to do student teaching next spring. When conflict arose regarding the buddy system, my cooperating teacher tried to stifle the complaints more than I did. Although I have worked with children in day and resident camps since high school, I do not have all of the skills I need to keep students focused on learning tasks at hand. I encouraged students to raise their hand to be called on for answers, but still some of the students did not do so. Additionally some of the students stopped paying attention to the review of combinations once they had shared an answer with the class. I tried to give as many students a chance to respond as possible, so I think some of them tended to zone out after they had answered because they knew I wouldn’t call on them again anytime soon. Perhaps in the future I would have students pick other students once they had answered, that way I would not be excluding students. Also, it was hard for me to stop working with the students that were attentive and guide the students that were chatting back on track. I know that the class was not purposely off topic, but toward the end of the math hour I could tell that the students were ready to get outside and play on the playground.

When we finished our lesson, the class lined up to go outside for recess and I brought the plastic coins out to sort back into their containers by type. Some of the students volunteered to help me sort the coins so that I would be done faster. I liked that the students were willing to help me clean up after the activity, and I was glad that they were willing to give up a few

minutes of play to help me out. My class is always excited to have me work with them and it's nice to know that they really appreciate me coming into the school. Some of the students have even gotten in the routine of giving me a hug when I first enter the classroom. It definitely reassures me that they trust me and want to work with me in the future.

Money Unit: Day 5 or 6

SOLs:

1.10: The student will identify the number of pennies equivalent to a nickel, a dime, and a quarter; and determine the value of a collection of pennies, nickels, and dimes whose total value is 100 cents or less.

Learning Objectives:

TLW:

- Know the value of the penny, nickel, dime, and quarter.
- Count mixed groups of nickels, pennies, dimes, and quarters.
- Solve problems by using data from a picture and coin manipulatives.
- Evaluate groups of coins and create groupings that total a specific quantity.

Materials:

- Blank half sheets of paper (to create pages for a book)
- Plastic, Paper, or Real coins for manipulatives
- Crayons and writing utensils to color coins on the book pages
- Projector and computer connection to virtual coin manipulatives

Anticipatory Set: “How many coins do you need to make \$0.50? Is there more than one way to make \$0.50? How many ways do you think there are?” Prior to this lesson, there would be an entire unit focused on the students learning the value of each coin and how different coins can be added to create different sums. Once the students have practiced with counting coins, then this lesson will be used to have them expand on their knowledge.

Input: Before jumping straight to the answer to the questions, first go to easier levels of coin combinations. Ask if there are more than one way to make one cent, five cents, ten cents, fifteen cents, twenty cents, and twenty-five cents. To ensure that the students understand what is meant by combination, simplify it by saying that different coins can be used to create the same total. Use the virtual coin manipulatives on the computer to project the images on the whiteboard for students to see which coins are being used and to help them visualize what coins are available for them to create the sums.

Guided Practice:

Create a chart with the class to show how the different amounts of money can be made by combining different coins. The students will help create the poster by sharing combinations that they can come up with for the different sums. This poster serves as a demonstration for the activity that the children will do as independent practice. After finishing the chart with various combinations of the coin amounts, ask the original questions again. After allowing the students

to make and write down their predictions, have the students work to find the answer to how many different combinations they can find to make \$0.50.

Independent Practice:

Break the class into groups based on their tables of four. Next, give each group a stack of paper to create their different coin combinations on. All of the groups will have coin manipulatives to work with. Each student will record the different combinations that the group comes up with. During the investigation, visit different groups of students and ask them about their findings. Ask them how they know that their combination is worth fifty cents. Also ask whether their entire group agrees that the combination is correct. After thirty minutes of group work, have students share the different combinations with the entire class. Ask how the students think the different combinations should be recorded to avoid using the same coins twice. If the students do not understand, guide them into creating a chart, list, or table which displays the information easily for the students. An example of a chart that could be used is available at the end of this lesson plan.

Closure:

At the end of class ask the students how many different ways the class found to make fifty cents out of coins. See if any of the students' predictions were correct. Ask the students what the investigation showed them. Have the students talk about the different things they learned with the activity. For example, whether there were more ways to make fifty cents than the student predicted or which combinations they used. (There are 48 different ways to make the 50¢).

Assessment:

Students will create a booklet with the different ways to make \$0.50 by drawing and writing which coins are needed to make the sum. The students will also be tested on their logic of making different amounts of money through one-on-one interviews during class and through an end of unit worksheet that has students draw amounts of money with the use of different combinations of coins.

Adaptations for Students with Special Needs:

Since this lesson is planned for first graders who are just beginning to learn about counting coins in school, I would ensure that there are plenty of manipulatives available for the class. The students will also be working in small groups to solve the problems, so they will have help from peers. Additionally, this activity will be used as enrichment for the entire class. All of the students will have had practice with counting coins, and doing place value transitions for pennies, dimes, and quarters. With a basic understanding of coins and their values, the students can work through the problems with partners, the groups, or with the aid of teachers. For students that need additional help, I would plan to redo or review the activity during the hands-on math period that the class has on Wednesday morning.

Virtual Coin Manipulatives found at: http://www.eduplace.com/kids/mw/manip/mn_k.html

Practice At Home with this site: <http://www.funbrain.com/cgi-bin/cr.cgi?A1=s&A14=easy&country%5Busa%5D.x=39&country%5Busa%5D.y=58>

Sources: MATH, Grade 1 Teacher's Edition, Volume 2. Scott Foresman-Addison Wesley, 2000.

Chapter 9: Money.

Math Surf. (2007). Retrieved February 27, 2007, from <http://www.mathsurf.com>.

Making 50¢

Directions: Using pennies, nickels, dimes, and quarters find out how many different ways there are to make fifty cents or 50¢. Chart the different answers in this table. List the number of coins used for each solution and check to make sure the amount is equal to 50¢.

	Penny 1¢	Nickel 5¢	Dime 10¢	Quarter 25¢	Does this answer equal 50¢?
Solution 1:		10			yes
Solution 2:				2	yes
Solution 3:	10		4		yes
Solution 4:			5		yes
Solution 5:	10	8			yes
Solution 6:		5		1	yes
Solution 7:					Half Dollar - yes
Solution 8:	50				yes
Solution 9:		2	4		yes
Solution 10:	5	1	4		yes
Solution 11:		6	2		yes
Solution 12:	20		3		yes
Solution 13:	5	3	3		yes
Solution 14:	5	1	4		yes
Solution 15:					
Solution 16:					