

Field notes**Date:** 02/15/2012**Lesson duration:** 10.00 – 11.00**Teacher's Name:** Ms. "S"**Classroom:** 3rd grade**Number of students:** 22

- EIP: 3 students
- ESOL: 16 students
- Monitored: 3 students

Number of student present: 14

- 8 female: 7 Latino, 1 white
- 6 male: 5 Latino, 1 white

Materials: Individual whiteboards, eraser, markers, Smart Board, worksheets.**School:** -**Subject:** Math**Class Type:** General classroom

Overview of observed class: During the first phase of the class, students are going to work in centers. In the first center, students will put in practice their Math skills through the use of computer software to do calculus. In the second center, the classroom teacher will work with a small group of children on fractions and related Math problems. In the second center, the student teacher will also work with a small group on fractions. In the fourth center, the ESOL teacher will work with a couple of ESOL students on reading. In the second phase of the class, students will gather together on the carpet in front of the Smart Board (20 min). All together will solve Math problems related to fractions, decimals and money (20min). During the third and last phase, students will work individually on a Math worksheet. (15 min)

Participants: This 3rd grade classroom is made up of one general teacher and one student teacher. The classroom consists of 22 students, although during this period, only 14 students are present. They all wear jeans and t-shirts of different colors.

Classroom layout: The door is made of wood. On the top of the door there is a heading that says “Ms. S”. The students’ desks are situated in the middle of the classroom. There are four groups of desks. Three of the groups include five desks and one of them seven desks. There is an individual desk for one of the students at the back of the classroom. The chairs look at the Smart Board. There are also three extra tables; one on one corner of the classroom, close to the whiteboard; another one on the left side, close to the reading center and a smaller table, next to the reading center. Next to the door, on the wall, there are hangers for the kids’ backpacks. On the walls there are also projects done by the kids, vocabulary, word walls, calendars, days of the week, boards related to Math, posters, numbers, standards they are currently working on, lists with the students’ names, a whiteboard and a Smart Board, among others. The classroom also has a technology center with three computers next to the hangers. The teacher’s desk is situated on the front, at one corner. It has all the necessary supplies for the classroom and bookcases. The classroom consists of a sink, too, which is situated at the back in one corner.

Language Features in Content Area (see Fang& Schleppegrell, 2008):

1. What is the problem to be solved?

- Questions
- Commands
- Conjunctions

2. Linguistic Features

- Technical vocabulary
- Ellipsis
- References (demonstratives, pronouns)
- Being processes
- Conjunctions

PHASE 1: Working on learning centers (20min)

ST: Student Teacher

MS: Ms. "S" (General teacher)

S: Student

Event 1 (5min)

During this first phase, I focus on the center led by the classroom teacher, Ms. "S" (MS). Four students participate in this center: one white boy, one Latino boy and two Latino girls. Each of them has a worksheet where they are working on some problems individually. At the same time, they are having a snack. Once students are done with the problems they call MS by saying her name or by raising their hand so she can check the solution. MS has to call out some students to check if they are done.

Then, MS shows the students 2 pictures that represent some fractions:

S1: We can do $10/10$ to represent a whole and then, $1/3$ for the second one.

MS: So... this one represents this picture and this one this other? How do we put everything together?

S1: If we sum them... it is $13/10$.

MS: This is an improper fraction. The top number is bigger than the number on the bottom. How can we write it?

S2: 1... and... $3/10$

MS: Yes.

S1: So it can be $5+5+3$

MS: Good, whatever you do to figure out. Another way we can represent it is $1 \frac{3}{10}$. This is how we write it as a fraction: $\frac{3}{10}$ - $\frac{13}{10}$;

and this is as a number; 0.3 - 1.3

COMMENTS: MS introduces a new concept: "improper fraction". She uses visuals to activate students' background knowledge about fractions and to present the new

concept. She defines the improper fraction while she points out at the fraction to help students visualize what she is explaining.

Event 2 (15min)

The same group of students uses individual whiteboard and an eraser to illustrate and solve Math problems.

MS: We are going to continue from yesterday. Can you read it?

MS shows a whiteboard where a Math problem is written.

S3: Ms. "S" has 27 pencils. She gives $\frac{2}{9}$ to her friend Emily and $\frac{3}{9}$ to her mom. How many pencils does Ms. "S" have left?

MS: OK, I am not going to help you at all.

COMMENTS: *According to Fang and Schleppegrell (2008), the question expression "how many" suggests that the answer to the problem will involve a quantity. There is also an ellipsis since the second sentence consists of two clauses that are linked by "and". The second clause is missing the participant and the process. Students need to be aware of this in order to understand the problem.*

Students work in the problem individually, they write circles and numbers to represent the problem. One of the students claims to have the answer to the problem. However, this student only has the final result and not the process to get the solution.

MS (to S2): Why do you erase?

MS (looks at S1): You are on the correct path; when you subtract you subtract the top numbers...

The teacher points at the whiteboard. She helps the students to use their fingers to visually show how to solve the problem. All the students use their fingers to solve the problem.

MS (to S2): I can't see your thought process when you erase everything (he only had the solution)

MS: How many groups do we have to do?

S: 9

MS: OK, how many does mom receive?

S: 9

MS: Good.

MS: We are almost done... I will show you one more and we will be done. Would you like to read it?

S1: Ms "F" brought 40 candy hearts. She gave $2/10$ to Jimmy and James, $1/10$ to Isabel and $1/10$ to Emily. How many candy hearts does she have left?

MS: So Jimmy and James are sharing $2/10$. Jimmy has $1/10$ and James has $1/10$.

***COMMENTS:** MS clarifies the problems' data. She makes sure that students understand that Ms "F" gave $2/10$ for both of them and not to each of them. MS plays the role of facilitator. She deconstructs the sentence in order to facilitate students' understanding of the data.*

Students start working individually in the problem. Suddenly a conversation comes up between students.

S1: How many circles did you put?

S3: I didn't do circles... I did it immediately with fractions.

S1: You erased the circles...

MS: Let me see what you got... (Gets S3's whiteboard). You forgot to give candy hearts to Emily.

S3: Oh! So it is... X

MS is going to scaffold the students' understanding of the problem.

MS: How many candy hearts did he start with?

S: There are 40

MS: I divide it in 10 groups. So $40:10=4$. So there are 4 candy hearts in each group. (She represents it on the whiteboard by drawing 40 circles and then, the first 4 circles contain the number 1, the next four contain number 2, etc.).

Do I have 10 groups with 4 candy hearts in each group?

①	①	②	②	③	③	... and so on.
①	①	②	②	③	③	

S: Yes

MS: How many do Jimmy and James get? (She rounds 2 groups of 4)

S: 8

MS: And Isabel and Emily?

S: 8

MS: How many are left? We count in fours: 4, 8, 12, 16, 20, 24... 24! So there are 24 candy hearts left. We start with a fraction. The whole is $10/10$. We take away $2/10$, $1/10$ and $1/10$. All the denominators are the same so we can subtract. Good, I am confident.

***COMMENTS:** MS shows her expertise teaching Math since she is able to utilize different strategies to scaffold students' understanding of the problem. She models the procedures to solve the problem properly on the whiteboard. She uses visuals to support her explanations and she interacts with the students in order to make sure they understand the necessary steps to get to the right results.*

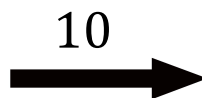
PHASE 2: Practice with the Smart Board (20min)

All the students sit on the carpet in front of the Smart Board. In this phase, the student teacher is the one who is going to lead the instruction. She is going to use the Smart Board to show some Math problems related to money that are going to be solved by the students.

ST: Now we are going to apply what we have learned about fractions to money. How many dimes are in one dollar?

S: 10

ST: Yes, I need 10 of this to make a dollar (she points at the dime and at the dollar as she says their names). If I have a dime, how fraction do I have? (She writes it down





$$1/10$$

$$= \$ 0.10$$

ST: What is the money number?

S: 0.10

ST: OK, we do not have a complete dollar so we put a 0 before the 10.

ST: If I have 3 dimes, what fraction of a dollar do I have? Who can help me to write it is money form?

S: (Writes $3/10$, and then \$0.30)

ST: Good job

ST: I have \$0.70, how many dimes do I have? So... each one is 10 cents so if I have 70 cents.... 10, 10, 10, 10, 10, 10, 10 (shows with fingers)... I have 7 dimes! Who can write that is fraction?

S: (Writes $7/10$)

ST (to one student): What about 80 cents? (The student does not answer).

We put the money after the 0. Look at the other examples.

COMMENTS: *One of the students is having some trouble when she is asked a question. Instead of providing the answer to the student, ST is able to guide through the necessary steps to solve the problem by herself.*

MS was sat on the carpet in silence but now she asks a question to the students aloud. They are working on a new example.

MS: Why is the denominator 10?

S: XXX

MS: You are closed

S2: XXX

MS: You are closed

S3: Because you are using tens to get one dollar.

MS: What does the denominator tell me?

S and MS: The number of equal pieces in the whole.

COMMENTS: *MS encourages her students to think critically. She also asks questions that students are supposed to know in order to active their background knowledge. She has also used properly one mathematical technical word (denominator) and students are able to successfully identify it and define it.*

PHASE 3: Small group worksheet (2min)

MS says that they are going to work on the worksheets. Everyone gets up and goes to the next station. Some of them go directly to their desks to work individually. A group of five students, four Latino and one white gather on a small group in front of the Smart Board and are led by the ST. They sit on the floor. I am going to focus on this group.

ST: We are going to work with quarters. What is the fraction form for two quarters?

S: $2/4$

They review a couple more things.

ST: If you have questions, just raise your hand.

Students get up and go to their desks in order to start working on the worksheet.

PHASE 4: Individual work (15min)

MS plays background music in the classroom. Students are working individually on a worksheet where concepts such as money form, fraction form and word form are included. MS and ST go around the classroom answering any type of question that students can have while completing the worksheet.

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PHASE 1: Working on learning centers (20min)

ST: Student Teacher

MS: Ms. "S" (General teacher)

S: Student

MS "S" has left the classroom so the group of students I am focusing on is alone on the carpet that is in front of the Smart Board. There are 1 Latino boy, 2 Latino girls and a white boy. The Latino students are talking in Spanish in front of the white boy.

S1 (white boy): Did you know that nobody understands what you are saying? After this comments the Latino students switched to English and the white boy participated in the conversation.

I told them that I could speak in Spanish and one of the girls tested me.

S2: How do you say apple?

Me: *Manzana*

S2: And boots?

Me: *Botas*

S2: And pen?

Me: *Pluma*

S2 and S3 look at each other.

S3: She is good!

MS arrives to the room and she gives out whiteboards to each of the students.

MS: OK let's review what Ms "F" did yesterday. Let's start simple. How do I read this number? (58.6)

S2: Fifty-eight and six tenths.

MS: What about 41.9?

S3: Forty-one and nine tenths.

Next, MS writes on her whiteboards the following operation: $58.6 + 41.9 =$

MS: How do you line up 58.6 and 41.9?

S1: I don't know

MS: We did this yesterday. When I say line up I mean:

$$\begin{array}{r}
 58\text{6} \\
 + \\
 41\text{9} \\
 \hline
 \end{array}$$

S1: Ah! Like in the computers! Oh I know I remember! (He does the operation)

MS: Correct!

S1: Oh I see!

COMMENTS: MS represents visually the concept of lining up and the student is able to remember the procedure.

MS writes a new problem on the whiteboard

S1 aligns the dots correctly and solves the operation.

MS: Good!

MS (to S1): Let's do some borrowing. How do you feel about borrowings?

MS writes down a subtraction for S1. The student lies down while doing the exercise. The teacher is talking to another student.

MS: Can I Take 5 from 2?

S1: No

MS: So?

S1 does the changes he has to do while MS points out what he has to pay attention to when borrowing.

MS writes a Math problem on the whiteboard.

MS: OK! Challenge! Could you read it?

S2: How much more money do Jimmy and Isabel have than Emily and James?

Isabel	\$5.24
Emily	\$3.21
James	\$2.29
Jimmy	\$2.69

MS: This is actually a three-step problem. What would you do first?

S2: Add

MS: Add what?

S2: \$5.24 and \$2.69 because it is the money that Isabel and Jimmy have altogether. Then I will add \$3.21 and \$2.29 because it is what Emily and James have together, and then I will subtract.

MS: So three steps: 1. We need to know how much money Jimmy and Isabel have. 2. We need to know how much money James and Emily have. 3. We subtract one from the other.

S2: I know how to do everything together.

MS: But we need to know how much MORE money Jimmy and Isabel have than Emily and James.

S2: I have the answer

S3: Me too!

COMMENTS: *MS guides the students towards the solution of the problem. She tells them the type of problem they are working on when she says that it is a three-step problem. Through this comment, students are able to internalize the meaning of this concept and realize that there are three steps they have to follow in order to get to the right answer. One of the students explains the three steps and MS validates it by repeating it. MS also knows that the key concept in the problem is "much more". For this reason, she stresses it in order to help the students realize what they have to do next.*

S1 shows the final answer to MS.

MS: OK but we have three steps. We need to figure out three steps.

S4: I have the answer

MS checks S4's answer.

MS: Good

MS check S1's whiteboard. He only has 2 steps.

S1: Now I need to know how much money they have?

He does the operation mentally. He does it well but the final result is not the right one. One of the previous steps is wrong. He tries again.

MS checks S2's whiteboard. She has not finished but she has some wrong data. She has actually add instead of subtract because she has read much MORE.

MS: S2 is wrong, let's help her out. Jimmy what did you do?

S4: Subtract at the end.

MS: Why?

S4: Much more

MS: Yes, when we have much more it means that we are going to compare or contrast something. But that is in the last step.

Time is up, they tidy up.

COMMENTS: MS explains again the concept of "much more" to make sure that all the students know what they have to do when they see it.

PHASE 2: Practice with the Smart Board (20 min)

All the students sit on the carpet in front of the Smart Board. In this phase, the student teacher is the one who is going to lead the instruction. She is going to use the Smart Board to show some Math problems related to money that are going to be solved by the students.

ST: Can you tell me something you know about decimals so far?

S1: Fractions

S2: Separate numbers

S3: We can subtract

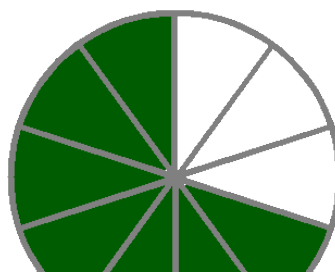
ST: What do we do to subtract?

S4: We line them up

S4: Money

ST: We are going to do some review and then we will work on a worksheet.

Who can come here and draw a picture to make seven tenths?



S4 draws seven tenths

ST: How many pieces did he draw?

S: 10

ST: 10 equal pieces. Good

Afterwards a couple of students write the decimal (0.7) and the fraction form (7/10).

ST: So, all of this means seven tenths. Do you all see this?

Next, they move to a Math problem. ST reads the problem.

ST: Mary has \$40.00. She goes to the mall and she spends \$23.89 on a t-shirt.

How much money does Mary have left?

ST: What do we have to do?

S: Subtract

ST: Why?

S: Spends

ST underlines the word “spends”.

ST: So we have decimals. Remember to line them up every time you need to add or subtract.

COMMENTS: *ST underlines the key word in the problem “spends” to help students visualize what they have to do next and think about what this verb means in Math.*

S2 goes to the Smart Board and solves the problem.

ST: Good, S2.

ST: How can we check?

S: Adding \$23.89 and \$16.11

ST: Let’s see if it equals \$40

The result is correct.

ST: Does it make sense? When you get an answer, you can always check it by adding.

COMMENTS: *ST provides students with a strategy to justify if the operation was solved correctly. She models the procedure.*

They move to the next problem.

ST (to S4): What digit is in the tens’ place? (10.6)

S4 does not say anything

ST: what digit? The 1? the 0? the 6?

S4: The 6

ST: How would you say that number?

S: Ten and six tenths

ST: Every time you see a dot, you have to say AND. Good

COMMENTS: *Since the student does not know the concept of digit, ST provides some options of a digit in order to help the students understand this word by contextualization. ST also puts more stress in “and” to show the importance of using it when reading decimals.*

They move to the next problem.

ST: Ms “C” has \$10.78. Ms “F” gives her \$5.50. How much money does Ms “C” have now? What do we do?

S5: Add.

ST: Why

S5: Gives

ST: OK, so first we put \$10.78 and then \$5.50. (She writes one under the other but they are not lined up)

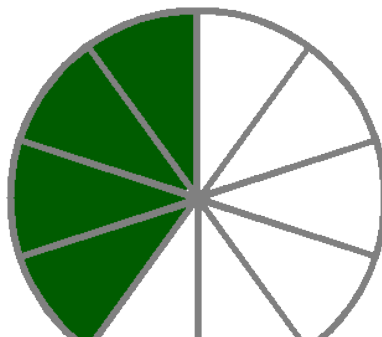
S: It is wrong because first we have to line up.

ST: OK (She lines up the numbers)

COMMENTS: *ST underlines the key word in the problem “gives” to help students visualize what they have to do next and think about what this verb means in Math.*

ST models a typical mistake that students usually make in order to show what they do not have to do. Students realize and tell ST what to do. ST validates their response by saying “OK”.

A student solves the problem and they move to the next one.



ST: What is the fraction?

S6: 4/10

ST: Good. Because... how many are shaded?

S: 4

ST: And as a whole?

S: 10

ST: Good

Phase 3: Working individually on a worksheet (15min)

Students work individually. MS gives out folders to avoid copying each other.