**OBSERVATION OF LESSON PRESENTATION:**

Teacher begins the lesson by greeting the learners and asking them to take their seats. Once seated, teacher instructs learners to take out their workbooks and to turn to the back of them.

Begins the lesson by asking learners how many of them have ordered/have had a pizza before, that has already been equally cut. Teacher describes the annoyance of slices that are not cut equally- someone in the family will get a piece too big, some will get a piece too small (unfair, thus causing a few fights in the family). To prevent this, we can phone the pizza place and ask them if they know how to do fractions, if they do know how to fractions, they should know how to cut the pizza so that everyone can get their own slice without anyone feeling like they were cheated – everything will be fair.

Teacher then draws the learner’s attention to a diagram of six pizzas presented on the board already. These pizzas are cut with different size slices. ( ) Teacher explains how two people can share a pizza in half, how a family of 4 can share a pizza cut into quarters. Teacher then asks learners if we had to out the quarters on top of each other, would they be the same? Since they are, everyone in the family will be getting an equal sized slice.

The teacher asks the learners what they noti9ce about all six pizzas and their slices as a whole. Asks them point out any similarities or differences about them. Learners notice that the more slices there are, the smaller the slices get. Half, two equal pieces that are a lot larger than the fifths. Need to cut the slices evenly.

Other teacher attends lesson presentation after a few minutes have passed (lack of time and pressure).

Teacher probes further for any other significant similarities between the pizzas. The learners point out that some sizes such as cutting into threes is not as easy as cutting the pizzas in half. Teacher receives response and further clarifies what learner was referring to by explaining the unconventionality of cutting pizza into threes and how one would need to know their measurements to cut the pizza into three equal slices.

Teacher then directs learners into what he originally wanted them to note, by indicating that all six pizzas are of the same size. The teacher then asks the learners if they were to order a pizza, would they prefer to order it to be cut into 6 slices or 8 slices. Learners respond with 8 and the teacher asks why, is 8 slices of pizza more than 6 slices of pizza? The teacher gives learners some time to ponder whether 8 slices is more than 6 slices. Learners come to the conclusion that regardless of size, 8 or 6 slices is a whole pizza. Teacher then refers to diagram and says that even though these pizzas have been cut into different size pizzas, we will be eating the same amount of pizza for each pizza. This concept is what we call equivalent fractions. If we have the same size pizzas but cut them into different slices, we can still eat the same amount of pizza. When you order a large pizza, do not assume that because there are more slices you are getting more pizza.

Teacher then refers learners to more practical examples – pizza cardboard cut outs, already on the board. Teacher asks learners if we had to add these two pizzas together how would we go about adding these two pizzas together. Teachers does not answer himself immediately, he waits for learners to think about what he is asking first. When learners do not respond, he rephrases the question using different terminology: How many pizzas did you order, you would say 1 + 1 = 2 pizzas in total. Once having said this, he asks another question about how many slices are there in total but removes one slice. He asks the learners if we can still add the pizzas in the same way… The learners quickly respond no. Teacher explains it is no longer as simple as 1 pizza + 1 pizza. We now need to find a different way to represent the second pizza. Before telling the learners, he gives them an opportunity to try and explore the different ways of representing the pizza. When the learners figure out that the second pizza can be turned into a fraction, the teacher refers to the learner’s prior knowledge from grade 6/7 and asks how would the second pizza be turned into a fraction.

When learners respond that they need to calculate how many slices there are in total and use it as the denominator and use the number of slices left over as the numerator, the teacher positively agrees with answer and rephrases it so that all learners understand the concept.

Teacher then asks learners to represent the first pizza with no slices missing as a fraction; , he asks them how many slices are there in total for the denominator, 6 and how many have been eaten, 0, so how many are left, 6 for the numerator. As teacher asks these questions, he writes the fraction on the board so all leaners can visualise what it is that he is describing.

By doing so he demonstrates to learners that fractions can be represented as whole numbers and whole numbers can be represented as fractions. Six out of six slices are a whole pizza.

Teacher then refers to the second pizza with a slice missing and how it will be different; . Once again, he asks them how many slices are there in total for the denominator, 6 and how many have been eaten, 1, so how many are left, 5 for the numerator.

With both fractions written on the board, he asks the learners if it is easier to add the two pizzas together now since both numbers are fractions.

Learners are able to clearly see that the denominators for both pizzas are the same. Teacher indicates if both fractions have the same denominator this means that the answer of the sum will have the same number as the denominator. From here, the teacher asks the learners how to calculate the numerator for the answer. Learners respond that they are able to simply add the two numerators together; 6 +5 = 11. Teacher provides positive interjections such as “Awesome!” to learners correct responses.

With the answer of teacher asks the learners what the notice about the answer fraction in comparison to the two fractions used in the sum., The learners respond that the numerator is bigger than the denominator – which is called an improper fraction. Again, positive interjections are used “Nice!” “Good one!”

Teacher indicates that the conversion from mixed fractions to improper fractions and visa versa is not the focus of the lesson but does indicate that for future reference the steps are as follows: 11/6 is, points to the denominator, six goes into, points at numerator, 11, once with 5 left over 6.

Teacher explains what this mixed fraction means in terms of pizzas, we have one whole pizza and a pizza with one slice missing from six slices. Teacher pauses at this point and allows an opportunity for learners to ask question on any misunderstanding with regard to the pizza and the fractions.

When no questions are asked, the teacher restates that when dealing with fractions, the denominator needs to be the same when adding or subtracting. Once the teacher concludes, he provides the learners with some examples to try on their own.

Teacher leaves the pizza cut outs on the board as reference for the learners and continues to write down sums for the learners on the left-hand side of the board. At this point the other teacher leaves the classroom. The teacher presents the learners with the following four sums:

Before he allows learners to work on their own, he does one example with them as a way to demonstrate how they should think when approaching such sums, what steps to take, and how to approach it if you get stuck. The other teacher walks back into the classroom.

He then provides an additional sum of . He asks the learners what they think the first step is to completing this sum. When a learner provides an incorrect answer, he redirects them by asking what they should first check for before attempting to solve the sum. With this redirection the learner is able to identify that they must first check if the denominators of both fractions are the same. Once the learner gets this right he responds with the positive interjection of “perfect!” and repeats the answer louder for all learners to hear. He then once again restates that one cannot add or subtract fractions unless the denominators are the same. He then points to the sum and exclaims that since the denominators are the same, the denominator of 5 can be carried over to the answer, after this he states that we can now add the two numerators together. But before he does, he asks the learners if anyone can say why the denominator of 5 remains the same in the answer. When the learners battle to come up with a response, he refers them back to the cut-out pizzas and tells them to think in terms of the pizza slices. From this frame of refence he indicates that there would be five slices and thus fractions are “out of something”. Teacher then adds the numerators to get an answer of and points out that this type of fraction is not an improper fraction and does not need to be converted to a mixed fraction as it is a common fraction.

The teacher states that along with the pizza cut-outs this example will be left on the board for the learners to refer back to if they get stuck while attempting to solve the four examples on the board. Teacher emphasises that if learners get stuck at any point and feel confused, they must not hesitate to raise their hand and ask for assistance.

Teacher gives the learners 5 – 7 minutes to complete the sums on the board, while he walks around checking the learners work and attending to any questions asked.

Once the time is over, the teacher then begins to do the solutions on the board with the learners.

1. He states that first the denominators must be checked and since they are the same the denominator of 2 is carried over to the answer. He then adds the numerators and gets . The teacher then indicates that although this answer is correct it can be represented in another way. He asks the learners what other way can this answer be represented as, the learners respond with 1 whole and thus the teacher describes the need to simplify fractions.
2. Once again, the teacher first checks that the denominators are the same and only once he has confirmed so, does he carry the denominator of 3 over to the answer and then he subtracts the numerators to get an answer of . The teacher provides the English term of “a third” for the learners.
3. Before going through the next example, he indicates to the learners that this example will refer back to the work that they have already done on integers. He tells the learners that integers include negative numbers if bigger numbers are subtracted from smaller numbers such as this example. He draws a number line that includes all the numbers that are being delt with in the sum, i.e., 1 and 3. Teacher verbalises all his actions while doing them. He then describes how when subtracting you begin with the first number given, which in this case is 1. With references to the number line, he reminds learners of how when adding we move to the right and when subtracting we move to the left. We start at the number 1 and then subtract 3, indicating on the board the movements of three units left, thus landing on the integer -2. He completes the example as . From this point he questions the learners if they notice anything special about this fraction. He once again using positive interjections and states the need to simply fractions to their simplified equivalent fractions. With this being stated the teacher provides a quick reference to the simplifying of ratios: just as one would simplify both the left- and right-hand side of a ratio, one needs to simplify the top and the bottom of a fraction. The teacher then asks the learners to attempt simplifying this fraction, when learners simply state , he cautions them to look carefully at the sum and the learners quickly rectify their solution to .
4. The teacher points out that there are three different fractions in this example and that all three fractions must have the same denominator in order to add the numerators. Once he has confirmed that the denominators are the same, he carries the denominator of 9 over to the answer and then he adds all of the numerators together to get . Once he arrives at the solution, he questions the learners if they can simplify this fraction further. When learners respond yes, he questions further what can both the denominator and the numerator be divided by. The learners indicate that both can be divided by 3. He demonstrates how both sides divided by three looks: he then asks if this can be simplified further, when the learners indicate no, he states that this is the final answer.

Once the teacher has gone through the solutions for these four examples, he allows opportunity for the learners to ask any questions that they may have.

He then does one more example with the learners:

He once again begins the sum by stating that the first step one needs to do is to check if the denominators are the same before adding or subtracting fractions.

Since the denominator is the same, he carries it over to the answer. He then begins to solve the sum from left to right; 4 – 3 is 1 and 1+1 is 2. To conclude the sum, he asks if the answer can be simplified further, to which the learners say no. It is the final answer. The learners at this point ask the teacher if they should apply BODMAS to this question, he responds “that is a very good question!” he then asks what BODMAS stands for, Brackets of Multiplication Division Addition and Subtraction.

The teacher explains that according to BODMAS, addition comes before subtraction, he then completes the sum incorrectly, in said manner to see the difference in the answer; 3+1 = 4 and then 4-4 = 0 which is . From here the learners are required to identify his mistake, the learners identify that it is in fact -3+1 = -2 and 4-2=2, thus giving the same answer as . The teacher describes the importance of signs, one needs to include the signs when adding and subtracting integers.

From this point he states that he will be giving the learners more complex examples to attempt and whatever they do not finish in class will become homework and will be marked in the next lesson.



**INTERVIEW OF LESSON PRESENTATION:**

QUESTION:

Was there a particular reason for having chosen the given example to the learners?

ANSWER:

Some of them were just because they looked good, others because the involved a negative or they involved a previous section of the work. The different operations.

QUESTION:

What questions did the learners ask you during the lesson presentation?

(One asked something about the number line, can I get more information on that?)

ANSWER:

They were just asking what would happen if you get 0 out of 5. Or if the numerator is the same as the denominator, what would need to be done to simplify the fraction.

QUESTION:  
Why were no examples with different denominators provided?

ANSWER:

Since it was an introductory lesson, I did not want to jump too far ahead or get them overwhelmed in anyway so I just kept it with same denominators and the answers for the examples, some of them had required learners to simplify which thus giving different denominators which reinforces the concept of equivalent fractions. I like to build up into the next few concepts for the next lesson.

QUESTION:

Do you think the learners achieved the lesson outcome, namely identify the denominators as multiples of one another? In other words, identifying the LCD. This was a lesson outcome that you planned in the lesson planning but was no covered in the lesson.

ANSWER:

A few lesson outcomes were changed from the original lesson planning done.

QUESTION:

You managed to address stronger learners and provide them with extended opportunities with more complex sums. But what about weaker learners? The ones that could not keep up or couldn’t solve the sums by themselves, did you do anything to address their needs?

ANSWER:

Not really, I did try and make all the examples included all skill levels.

QUESTION:

What do you think your strongest/ most effective form of formative assessment was? What provided insight into their understanding for you?

ANSWER:

Relating the concept of fractions back to the pizza definitely helped them get interested into the subject. And just constantly reminding them as they are doing the examples that if they are struggling, they ask for help. The walking around while they were doing the sums and just checking that they were following the correct steps.

QUESTION:

What was your actual overall lesson outcome that you wanted to be achieved by the end of the lesson?

ANSWER:

That if you have two wholes’, the moment you change that whole into a fraction you’ll have to do something else to change it in order to subtract or add it to another fraction. The concept of same denominators.

QUESTION:

What do you believe the learners actually did take away from the lesson?

ANSWER:

Next time they get a pizza that is cut incorrectly they are going to remember equivalent pieces.

QUESTION:

Do you think that your forms of formative assessment were adequate?

ANSWER:

No

QUESTION:

How would you have improved on them?

ANSWER:

They could have been a lot better if I had ended the lesson with a mini test, say four fractions. SO instead of the examples, given it to them as a little test that just to put mor pressure on them. If I had the opportunity to do so.