

## Concrete Operational Assessment

CI 171ECE Conservation Assignment Spring 2012

	POSSIBLE POINTS	ASSIGNED POINTS
Four children assessed/two conservations	1	1
Process clearly described	3	3
Responses adequately documented	3	3
Interpretation	2	2
Grammar and Writing	1	1
TOTALS	10	10

CI171 ECE  
The Concrete Operational Test Assignment

1. Demarie (6 years-old/Kindergarten)
2. The test took place in a quiet empty classroom of the preschool where she attends the after school program.
3. I administered the Conservation of Number task and the Conservation of Length task.

4. Conservation of Number

I began this assessment by placing eight red cubes on the table. I gave Demarie a bag of white cubes and asked her to "place as many white cubes as she sees red. Demarie touched each red cube as she counted aloud. She then reached in the bag of white cubes and correctly placed eight white cubes parallel to the red on the table. I then asked, "Are there as many red blocks as there are white blocks?" Demarie looked at the blocks for a second and then touched each one as she counted the red and then the white. Then she responded, "Yes! Because I counted eight red blocks, and eight white blocks". I then collapsed the row of white cubes so that the row was shorter in length than the red row. I asked, "Are there more white blocks, or more red blocks or do both rows have the same number? She immediately responded "there are more red blocks!" I asked, "How do you know there are more red blocks? She pointed to the red row and said, "Look the red is bigger". I then spread out the white blocks so they were once again parallel to the row of red blocks. I collapsed the row of red and asked again "Are there more white blocks, or more red blocks, or do both rows have the same number? Demarie laughed and said "now there are more white because the white is bigger!"

Conservation of Length

Demarie had similar reactions to this assessment. I began this assessment by placing two blocks of the same length on the table. I then asked, "Are these two blocks the same length or is one longer than the other? She held the two blocks together and thoroughly examined their length for a few seconds and said, "They are the same". The blocks were placed on the table parallel to each other and I moved one block forward a few inches and asked the same question again. Demarie pointed and replied "this one is bigger, see its all the way over here".

5. In completing this assignment I learned that Demarie is not yet in the Concrete Operational stage of development. Demarie was able to count the same number of cubes in the first activity and was also able to see that the blocks in the second activity were the same length. However she was not able to see that when the cubes or blocks were moved it did not change the quantity or length.

6. Demarie is in the Preoperational stage of development. She proved throughout this assessment that she does not yet have the cognitive ability of reversibility. She was not able to see that by moving the cubes or blocks back would return them to their original state and that the length and quantity of the items had not changed. She also demonstrated centration by focusing on only one aspect of the objects. For example, Demarie only focused on the size (length) of the objects without taking quantity or location into consideration.

1/22!

1. Emma (5 years old/ Preschool)
2. The test took place in a quiet empty classroom.
3. I administered the Conservation of Number task and the Conservation of Length task.
4. Conservation of Number

I began this assessment by placing eight red cubes on the table. I gave Emma a bag of white cubes and asked her to "place as many white cubes as she sees red. Emma correctly placed eight white cubes parallel to the red on the table. I then asked, "Are there as many red blocks as there are white blocks?" Emma looked at the blocks for a second and then matched each red cube to a white. Then she responded, "Yes!" I then collapsed the row of white cubes so that the row was shorter in length than the red row. I asked, "Are there more white blocks, or more red blocks or do both rows have the same number? She responded, "There are more red blocks!" I asked, "How do you know there are more red blocks? Emma said, "Look the red has more". I then spread out the white blocks so they were once again parallel to the row of red blocks. I collapsed the row of red and asked again "Are there more white blocks, or more red blocks, or do both rows have the same number? Emma said "now there are more white because the white has more than the red!"

#### Conservation of Length

Emma had similar reactions to this assessment. I began this assessment by placing two blocks of the same length on the table. I then asked, "Are these two blocks the same length or is one longer than the other? She held the two blocks together and thoroughly examined their length for a few seconds and said, "yes". The blocks were placed on the table parallel to each other and I moved one block forward a few inches and asked the same question again. Emma replied "this one is bigger because it sticks out".

5. In completing this assignment I learned that Emma is not yet in the Concrete Operational stage of development. Emma was able to count the same number of cubes in the first activity and was also able to see that the blocks in the second activity were the same length. However, she was also not able to see that when the cubes or blocks were moved it did not change the quantity or length.
6. Emma is in the Preoperational stage of development. She proved throughout this assessment that she does not yet have the cognitive ability of reversibility. She was not able to see that by moving the cubes or blocks back would return them to their original state and that the length and quantity of the items had not changed. She also demonstrated centration by focusing on only one aspect of the objects. For example, Emma only focused on the location of the items that were moved and did not see that the quantity remained the same.

1. Debrah (10 years old/ 4<sup>th</sup> Grade)
2. The test took place at her home at the kitchen table. It was quiet and no one else was present.
3. I administered the Conservation of Length and the Conservation of Liquid Assessments.

4. Conservation of Length

I began this assessment by placing two blocks of the same length on the table. I then asked, "Are these two blocks the same length or is one longer than the other?" Debrah said, "They are the same length". The blocks were placed on the table parallel to each other and I moved one block forward a few inches and asked the same question again. Debrah said, "They are still the same blocks, you just moved that one up". I reversed the direction of the blocks, so that the opposite block was pushed forward a few inches and asked again. She answered, "They are the same, you just moved this one up." ✓

Conservation of Liquid

For this assessment, I placed two cups of the same size on the table. Each cup was filled with the same amount of liquid. I asked Debrah, "Do the cups have the same amount of liquid or does one have more than the other?" She agreed that both cups had the amount. I then took the liquid from one cup and poured it into a tall narrow glass. I asked again, "Do the cups have the same amount or does one have more than the other?" She Replied, "It's the same this cup is just taller, if you poured it back its still the same." I continued the assessment by pouring the liquid from the tall narrow glass into a wide container and asked again if the liquid amounts were the same. She said yes they are the same, this bowl is just wide if you poured it back it's still the same." ✓

5. After assessing Debrah I found that she is a conserver. She showed understanding of many aspects of concrete thinking including identity, negation, reversibility, and compensation. She showed understanding of identity by understanding that in the first assessment "one was just moved up" and in the second assessment she saw the liquid remained the same amount. She proved an understanding of negation by realizing in both assessments that nothing was added or taken away. She also realized in the second assessment that if you poured the liquid back into the original container it would be the same; this shows she understands the idea of reversibility. Debrah also mentioned how the container in which the liquid was poured changed its height but that the water was still the same amount and this shows she understands the idea of compensation. *! good!*

6. This assessment showed that Debrah is in the Concrete Operational Stage of development. She is able to form concepts, see relationships, and solve problems. She had no difficulty with the conservation assessment and answered the questions appropriately for a conserver. She demonstrated an understanding of the required concepts and showed complete understanding of the actions that took place in the assessment.

1 year

1. Elena (11 years old/5<sup>th</sup> grade)
2. This assessment took place in a quiet classroom
3. I administered the Conservation of Length and the Conservation of Liquid Assessments.
4. Conservation of Length

I began this assessment by placing two blocks of the same length on the table. I then asked, "Are these two blocks the same length or is one longer than the other?" Elena replied, "They are the same". The blocks were placed on the table parallel to each other and I moved one block forward a few inches and asked the same question again. Elena said, "They are the same still, this one sticks out here and that one there". I reversed the direction of the blocks, so that the opposite block was pushed forward a few inches and asked again. She answered, "They still the same, if you push this one back they are still the same".

#### Conservation of Liquid

For this assessment, I placed two cups of the same size on the table. Each cup was filled with the same amount of liquid. I asked Elena, "Do the cups have the same amount of liquid or does one have more than the other?" She agreed that both cups had the amount. I then took the liquid from one cup and poured it into a tall narrow glass. I asked again, "Do the cups have the same amount or does one have more than the other?" She Replied, "you didn't change anything this cup is just tall" I continued the assessment by pouring the liquid from the tall narrow glass into a wide container and asked again if the liquid amounts were the same. She said, "nothing changed just the cup is wide". ✓

5. After assessing Elena I found that she is a conserver. She showed understanding of many aspects of concrete thinking including identity, negation, reversibility, and compensation. She showed understanding of these ideas by realizing that in both assessments nothing was added or taken away and that if you returned the objects to their original locations they would be the same. ! you!
6. Elena is in the Concrete Operational stage of development. She was able to identify concepts appropriate for a concrete thinker. Her answers demonstrated a complete understanding of what was taking place with the objects involved in the assessment. She used problem-solving techniques to answer the questions and proved her understanding with her in depth response.

Very nicely done!  
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