Stages 3 and 4 of Piaget's 4 Stages of Cognitive Development

by Sophia Tutorial

WHAT'S COVERED

This tutorial covers the last two stages in Piaget's theory of cognitive development. You will learn about:

1. The Concrete Operational Stage
2. The Formal Operations Stage
3. Criticism of Piaget

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1. The Concrete Operational Stage

BEFORE YOU START

Recall that Jean Piaget was a very famous figure in psychology. Piaget was a Swiss psychologist who in the 1920s developed a theory of cognitive growth and development. His theory contains four stages of cognitive development, which are steps that occur in order one after the other. According to his theory, each child goes through the first one all the way through to the fourth one.

This tutorial covers the final two stages.

The third stage of development is called the **concrete operational stage**.

The concrete operational stage occurs between 7 and 11 years of age. During this time, children are able to begin to think logically about concrete events, ones that are very specific to them, though abstract or hypothetical ideas are harder for them to grasp right now.

This stage is identified by several characteristics:

- Children are able to understand **conservation** now. Conservation means that there is the same amount of something, regardless of what kind of container it might be in. Piaget tested conservation through experiments using liquids.

  EXAMPLE The same amount of liquid was poured into two different containers--one that was very long and narrow and one that was very wide and shallow. Before this stage, the child wasn't able to tell

that it was the same amount, but during this stage, they can.

- Children are able to understand reversibility, which is when you reverse certain actions and get the same results.

  ⤳ EXAMPLE For example, when you multiply 2 times 3, you get 6. If you multiply 3 times 2, you get 6. The order is reversible.

- Children are able to use inductive reasoning, which means that they can use a situation or a specific thing to come to a general rule about things.

📄 TERMS TO KNOW

Concrete Operational Stage
Ability to understand some concepts such as transformations and conservation but unable to understand hypothetical or abstract concepts

Conservation
The concept that weight, mass, and volume of matter can remain the same even if the shape or appearance of the container holding it changes

2. The Formal Operations Stage

The final stage in Piaget's theory of cognitive development is the **formal operations stage**.

The formal operations stage is from 11 years old all the way through adulthood. This is when a person reaches full cognitive development and gets the full range of their cognitive abilities and their reasoning. Some important features at this stage are:

- Ability to do deductive reasoning, which children are not able to do at the third stage. Deductive reasoning is the opposite of inductive reasoning, meaning that deductive reasoning gives you a general rule to predict what's going to happen in a situation. At this stage, people are able to take a general rule and predict what's going to happen in the future.
- At this stage, people can create hypotheses. A hypothesis is an educated guess of the outcome of a situation. This refers to the ability to reason that if you do something, then something else will probably happen as a result.
- People can also think abstractly at this point. They can talk about ideas that aren't concrete, like freedom, and can plan for the future. This refers to the ability to think about things that are coming in the future that are a bit more abstract to think about.
- Finally, at this stage, people start to develop empathy, which means understanding what other people are thinking and understanding the people around them better.

📄 TERM TO KNOW

Formal Operations Stage
Use of hypothetical, abstract thoughts, symbols, and complex problem-solving

3. Criticism of Piaget

While Piaget's theories are very influential in psychology, there is some criticism as to his methods for a few reasons.

1. A lot of his research was largely based on anecdotal evidence, which means that Piaget looked at a very small group of children to arrive at very broad conclusions about everybody. So, these theories might not necessarily apply to everybody. In fact, a lot of his research was done on his own children and his observations of them at home. Therefore, this is what is called experimentally understandable or experimentally tried out.

2. Piaget also tends to underestimate children's abilities, particularly in light of what we know now. A lot of children in the preoperational stage are better able to understand other people than was initially thought. Many children are able to jump almost all the way to the fourth stage of development, even at a young age.

3. The idea that children normally go through these stages at set times isn't necessarily applicable to everybody. Not everybody goes through the same sorts of steps. Labeling children as "normal" if they go through these stages or "abnormal" if they fall outside of those ranges could have negative effects on them. This is particularly true during their development and at a young and influential age.

📋 **SUMMARY**

The final two stages of Piaget's theory of cognitive development are the **concrete operational stage** and the **formal operations stage**. These stages each have distinct characteristics of development. The first two stages are discussed in their own tutorial. Piaget's theories are very influential, but there has been **criticism of Piaget** based on some of the new theories of development that have been developed since his time.

Good luck!

Source: This work is adapted from Sophia author Erick Taggart.

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Formal Operations Stage
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