Jean Piaget

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Jean Piaget (1896-1980) is a well-known leader in the field of psychology with a focus on child development and cognition. Piaget was born in Neuchâtel, Switzerland. As an adolescent, he had interests in the natural sciences including a fascination with mollusks. While studying zoology and receiving a doctoral degree in the natural sciences at the University of Neuchâtel, Piaget attended psychology courses at the University of Zürich with Carl Jung, an important figure in the field of psychoanalysis. In learning information about psychoanalysis, Piaget became interested in psychology and the complex operations of the human mind.

After working with Jung, Piaget began working in a laboratory in Paris with Théodore Simon and Alfred Binet, two psychologists who emphasized the importance of intelligence testing. Simon, Binet, and Piaget wanted to understand the relationship between children's intelligence and the cognitive errors that they typically make. Piaget came to believe that a child's intelligence could not be easily measured because cognitions are developed in stages throughout childhood. Piaget immersed himself in studying the cognitive functioning of children and how it adapts throughout childhood in a dynamic, ever-changing environment; he ultimately developed the stage theory of cognitive development that is his enduring legacy.

Piaget took the abstract concept of logic and reasoning and applied it to measurable, quantifiable variables. He described logic as a component of cognitive functioning that was not innate, but is a continuum of knowledge that progresses simultaneously with the growth of the child. Piaget believed that a child could not perform at a higher stage of logic because they had

not developed or experienced the necessary skills and patterns of cognition needed to complete higher level thinking. With his hypothesis and findings of children's intelligence, Piaget determined that a child experiences a pattern of four distinct stages of cognitive development, with each stage more suited for a specific age group. As a child develops and matures, their cognitive development progresses in congruence with their physical development.

The sensorimotor stage begins at birth with the development of the sensory and motor skills. The infant cultivates reflexes, reactions to stimuli and forms basic cognitive schemas to understand their environment. In particular, infants use circular reactions to explore their immediate surroundings. For example, infants continuously suck their thumb because the action, although caused by chance, brings them pleasure.

Beginning at age two, children transition into the preoperational stage of cognitive development. In this stage, representational systems play an important role; specifically the child is able to verbally express and categorize a variety of symbols that represent people, places and events. For example, a child can ask their father about a specific fruit they encountered at the grocery store a few months prior; they do not need to be physically present at the grocery store. Although the child has created a representational system of thinking, the cognitions of the child are not always logical.

In Piaget's third stage of cognitive development, concrete operations, a child has the ability to think logically. Around the age of seven, a child can use reasoning techniques in their cognitive abilities. For example, in deductive reasoning, a child can think of a general statement, such as "all boys like to wear stripes", and deduce that since a classmate is a boy, he likes to wear stripes. Piaget mentioned the growth of understanding causality. For instance, a child in the

concrete operations stage will be able to describe the cause and effect relationship of items affecting the balance of a scale.

In the final stage of cognitive development, formal operations, adolescents develop the capacity for abstract thinking. The eleven year old can use concepts such as "what if" and begin to use symbols to represent other symbols. For example, adolescents can use letters X and Y to represent unknown variables in math calculations. Adolescents practice hypothetical-deductive reasoning, which involves scientifically testing and solving hypotheses to a problem.

Piaget's cognitive development stage theory revolutionized how psychologists began to think of children's cognitions and intelligence. An individual must recognize all aspects of a child, including the external environment, in order to access the level of cognition. However, Piaget received critical feedback about his findings on cognitive development. There was a lack of emphasis on social and cultural factors in the description of each stage. In addition, not every child will follow these exact stages in the specific order and not every adult is able to achieve the formal operations stage of cognition. Although Piaget's cognitive development stage theory had an important role in advancing developmental psychology, there were areas for improvement and consideration.

Jean Piaget was a notable and prolific academic throughout his life. He was a professor and director at many prestigious institutions, including the University of Geneva in Switzerland and the Sorbonne in Paris, France. Piaget published more than sixty books and several hundred scientific papers. As a testament to his influence, he was awarded many prizes and honorary degrees around the world. Piaget died in Geneva, Switzerland in 1980. However, his legacy of child development lives on in his important theories, books, and papers. Additionally, Piaget's influence is still evident in many schools' curriculums, which emphasize activity during learning

and allow children to intellectually develop at their own pace within their age-appropriate cognitive stage.

Further Reading

Guber, H.E., & Vonèche, J.J. (Eds.). (1977). *The essential Piaget.* New York: Basic Books,

Singer, D.G., & Revenson, T.A. (1996). *A Piaget primer: How a child thinks.* New York: Penguin Books.