

Piaget

The child as active learner

Piaget's concern was with how young children function in the world that surrounds them, and how this influences their mental development. The child is seen as continually interacting with the world around her/him, solving problems that are presented by the environment. It is through taking action to solve problems that learning occurs. For example, a very young child might encounter the problem of how to get food from her bowl into her mouth. In solving the problem, with a spoon or with fingers, the child learns the muscle control and direction-finding needed to feed herself. The knowledge that results from such action is not imitated or in-born, but is *actively constructed* by the child.

What happens early on with concrete objects, continues to happen in the mind, as problems are confronted internally, and action taken to solve them or think them through. In this way, *thought is seen as deriving from action*; action is internalised, or carried out mentally in the imagination, and in this way thinking develops. Piaget gives a much less important role to language in cognitive development than does Vygotsky. It is action, rather than the development of the first language which, for Piaget, is fundamental to cognitive development.

Piagetian psychology differentiates two ways in which development can take place as a result of activity: *assimilation* and *accommodation*. Assimilation happens when action takes place without any change to the child; accommodation involves the child adjusting to features of the environment in some way. Returning to the example of feeding, let's imagine what might happen when a child, who has learnt to use a spoon, is presented with a fork to eat with. She may first use the fork in just the same way as the spoon was used; this is assimilation of the new tool to existing skills and knowledge. When the child realises that the prongs of the fork offer new eating opportunities - spiking food rather than just 'spooning' it - accommodation occurs; the child's actions and knowledge adapt to the new possibility and something new is created. These two adaptive processes, although essentially different, happen



sign language

together. Assimilation and accommodation are initially adaptive processes of behaviour, but they become processes of thinking. Accommodation is an important idea that has been taken into second language learning under the label 'restructuring', used to refer to the re-organisation of mental representations of a language (McLaughlin 1991). We will encounter it again when we consider the development of grammar.

From a Piagetian viewpoint, a child's thinking develops as gradual growth of knowledge and intellectual skills towards a final stage of formal, logical thinking. However, gradual growth is punctuated with certain fundamental changes, which cause the child to pass through a series of stages. At each stage, the child is capable of some types of thinking but still incapable of others. In particular the Piagetian end-point of development - thinking that can manipulate formal abstract categories using rules of logic - is held to be unavailable to children before they reach 11 years of age or more.

The experimental studies used to support Piaget's theories have been criticised for not being sufficiently child-friendly, and for underestimating what children are capable of. In a series of ingenious experiments, Margaret Donaldson and her colleagues have convincingly shown that when appropriate language, objects and tasks are used, very young children are capable of many of the ways of thinking that Piaget held too advanced for them, including formal, logical thought (Donaldson 1978). These results undermine some of Piaget's theoretical views, particularly the notion of discrete stages and the idea that children cannot do certain things if they have not yet 'reached' that stage. Before children were allowed to start writing sentences, they had to complete sets of 'writing readiness' activities that worked on part-skills. In spending so long on writing patterns and bits of letter shapes, they were missing out on the more holistic experiences that also help children understand the purposes of writing as communication.



sign language

An important dimension of children's lives that **Piaget neglects is the social**; it is the child on his or her own in the world that concerns him, rather than the child in

communication with adults and other children. As we will see, **Vygotsky's ideas give a much greater priority to social interaction.**

Piaget and Stages of Cognitive Development

The teaching of children has been profoundly affected by the work of Jean Piaget, who identified four stages of cognitive and affective development in childhood and adolescence. The child develops cognitively through active involvement with the environment, and each new step in development builds on and becomes integrated with previous steps. Because two of the four shifts in developmental stage normally occur during the elementary school years, it is important for language teachers working with children to keep the characteristics of each cognitive stage in mind (Piaget, 1963). They are as follows:

1. The stage of sensory-motor intelligence (age 0 to 2 years). During this stage, behavior is primarily motor. The child does not yet internally represent events and “think” conceptually, although “cognitive” development is seen as schemata are constructed.

in language

2. The stage of preoperational thought (age 2 to 7 years). This stage is characterized by the development of language and other forms of representation and rapid conceptual development. Reasoning during this stage is pre-logical or semi-logical, and children tend to be very egocentric. Children often focus on a single feature of a situation at a time—for example, they may be able to sort by size or by color but not by both characteristics at once.

3. The stage of concrete operations (age 7 to 11 years). During these years, the child develops the ability to apply logical thought to concrete problems. Hands-on, concrete experiences help children understand new concepts and ideas. Using language to exchange information becomes much more important than in earlier stages, as children become more social and less egocentric.

4. The stage of formal operations (age 11 to 15 years or older). During this stage, the child’s cognitive structures reach their highest level of development. The child becomes able to apply logical reasoning to all classes of problems, including abstract problems either not coming from the child’s direct experience or having no concrete referents.