
VGOTSKY'S CULTURAL-HISTORICAL THEORY OF DEVELOPMENT

Lev Semenovich Vygotsky (1896–1934) was a literary scholar turned psychologist. He was an integrative thinker who conducted research and analyzed theoretical issues during a brief postrevolutionary career in Russia (1924–1934). Vygotsky focused on understanding the development of higher forms of cognition as those processes are influenced by culture—specifically, the signs and symbols of one's culture. In his 10-year career, Vygotsky wrote on the cognitive difficulties of disabled children, developed a single-subject research method, analyzed thinking and speech, and developed his theory of cognitive development, which he designated as *cultural-historical*. He did not refer to his theory as *sociocultural* because that term does not reflect the child's developmental history.

Vygotsky addressed new questions for psychology that also are relevant in contemporary society. His goal was to understand the whole of human consciousness, including thinking, feeling, will, and an understanding of oneself. In his perspective, the signs and symbols of a culture, such as speech, concepts in academic

subjects, numerical systems, and advanced mathematical constructs, are instrumental in cognitive development. Vygotsky's contributions include a description of the stages, from early childhood to adolescence, in learning to use signs and symbols to master one's thinking; the importance of speech and the stages of speech in relation to thinking; the development of thinking in concepts and the pivotal role of conceptual thinking in developing higher forms of cognition; and the role of adults and teachers in fostering the child's cognitive development.

Important to Vygotsky's work was his extensive reading in several fields, including literature, psychology, philosophy, and ethnography. Reviewing the anthropological literature on early societies, Vygotsky concluded that primitive or elementary processes (involuntary attention, simple perception, and natural memory) are universal across cultures. However, higher forms of thinking vary, depending on the available symbol systems in the culture and the culture's form of reasoning with the symbols. Other early influences on his thinking were the philosopher Benedict Spinoza, who believed that rational thinking could conquer unwelcome passions, and the philosopher G. W. F. Hegel, who maintained that reality is not static but rather is always in flux. Vygotsky's writings reflect these beliefs in his statements about the essential role of conceptual thinking in understanding the world and oneself and in his description of cognitive development as constantly undergoing change. A third key influence was the view of Alexander Potebnya, a philologist, that language is a tool of thinking.

Although Vygotsky is widely cited in current publications in the United States, the major principles of his work are largely unknown. They are his single-subject research method, the principles of his theory, and his view of education.

Research Method

A major theme in Vygotsky's work was research methodology, which he maintained was essential to developing an objective understanding of human cognition. An important initial step in research, in his view, is to determine the essence or essential characteristics of the phenomenon to be studied.

Agreeing with the belief that humans had developed higher forms of thinking in the process of historical development, Vygotsky began by analyzing ethnographic writings on primitive cultures. He identified,

for example, the actions of a Kaffir man who cut notches into wood to remember the words in a missionary's sermon as the prototype of higher cognitive behavior. Through this action, the man had mastered his behavior and raised natural memory, which was inadequate for the task, to a higher level. Vygotsky concluded from this and similar examples that a higher mental structure consists of two layers. They are the stimulus-object, the task objective (e.g., the missionary's words), and the auxiliary stimulus, the stimulus-sign (e.g., notches cut into wood).

Vygotsky and his colleagues then conducted single-subject experiments on all age groups, first on memory and attention. The purpose was to determine how and when children were capable of using signs and symbols to master their thinking and the ways that these cognitive actions change throughout development. The experiments posed a difficult task, such as remembering several words on only hearing them once, with available auxiliary stimuli, such as unrelated pictures, nearby. School-age children who remembered the words by selecting a picture for each noted similarities and differences between word and picture and verbalized connections between them. For example, one school-age child chose a picture of a house to remember the word *chair* because people can sit in a house. This process of appropriating external stimuli reconstructed the child's natural memory on a higher level. The Vygotskian experiments, referred to as the *experimental-genetic method*, led to the identification of four stages that occur in developing mastery of one's thinking.

Basic Theoretical Principles

The four general stages in cognitive development, completed near the end of adolescence, transform the primitive or elementary processes of involuntary attention, simple perception, and natural memory into the highest forms of cognition. They are self-directed attention, categorical perception, thinking in concepts (conceptual thinking), and logical memory.

The first stage, in which young children unsuccessfully attempt to complete cognitive tasks directly (such as recalling a word list) is the primitive stage. In the second stage, preschool children unsuccessfully attempt to use auxiliary stimuli. However, they are unaware of the role the auxiliary stimuli should play in their thinking about the task. Stage 3, external sign use (like the notch-cutting Kaffir man) is the successful

appropriation of auxiliary stimuli to remember a word list or, in the attention experiments, to focus one's attention. Stage 4, internal sign use, is the reconstruction of memory and attention in the form of internally reconstructed cues.

Subsequent research also indicated four stages in learning to use a concept label (word) to guide one's thinking. The experiments required the subjects to identify concept examples, using the concept label (word) and a model example. The stages, which begin in early childhood and conclude in late adolescence, are syncretic images (child forms unordered heaps of objects), complexes (preschooler uses concept characteristics, such as color and shape, inconsistently), pseudoconcepts (the school-age child accurately forms groups of objects), and, finally, true conceptual thinking. Stages 3 and 4 reflect external and internal regulation of one's thinking, respectively.

Stages 3 and 4 in cognitive development reflect two levels of the mastery of one's thinking. In stage 3, the individual regulates his or her thinking externally (e.g., pictures to remember words, a model example as a guide for identifying concept examples). In contrast, stage 4 is the internal regulation of cognition, in which the individual's attention, perception, and memory are reconstructed on the basis of thinking in concepts.

The stages also reflect Vygotsky's belief that he considered three major ideas to be equivalent to each other. They are his conceptualization of higher cognitive processes, the process of cultural development, and the self-mastery of behavior by internal processes. The development of each higher cognitive process involves the reconstruction and mastery of one's thinking at a higher level, and mastery depends on the individual's appropriation of cultural signs and symbols for thinking.

Vygotsky identified three "laws" that govern the lengthy period of cognitive development. The first is the transformation from natural forms of cognition to the use of auxiliary stimuli (signs) in thinking (stage 3). The third law of development formalizes the major changes in thinking from the third to the fourth stage of sign use. The fourth stage involves the reconstruction of attention and memory on the basis of thinking in concepts and their interrelationships.

The second law describes the cultural mechanism whereby the child, and then the adolescent, undergoes stages 3 and 4 in cognitive development. From Vygotsky's perspective, cognitive development occurs on two planes. Specifically, every cognitive function

(process) occurs first between two people and then within the child. In other words, every higher cognitive process was initially a relation between two people. This conceptualization differs from other perspectives that identify the internal psychological plane as the sole locus of learning and development. The two people to whom Vygotsky refers in his statement are the adult, who represents the "ideal form" of cognitive behaviors that the child is to attain, and the child, the present form of cognition. For example, in the home, the speech of parents and other caregivers represents the final or completed form. Adult speech also determines and guides the child's first efforts on the path of development.

The Role of Education

Vygotsky identified the purpose of education as developing the child's cognitive processes to a high level. Three concepts in his view of education are relevant for contemporary education. Two of Vygotsky's concepts, the zone of proximal development and the role of collaboration in the classroom, although currently attributed to Vygotsky, are frequently described in ways very different from his view. The third important aspect of Vygotsky's thinking about education is the pivotal role of subject-matter concepts in developing higher forms of cognition.

First, Vygotsky maintained that instruction can lead development when any new form of the higher cognitive processes is beginning to mature. Vygotsky referred to the diagnostic task of identifying the cognitive processes in the period of maturation as identifying the child's zones of proximal development (ZPDs). The key to identifying maturing cognitive processes is to determine the problems that the child can solve with guidance. First, the teacher selects a problem that is just beyond the child's capabilities. Then, emerging cognitive processes can be determined in any of four ways: the child's successful imitation of the teacher's solution to the problem, completion of a solution that the teacher initiates, solving the problem after the teacher explains the principles, or solving the problem with a child more advanced in mental age. In contrast to Vygotsky's definition of ZPD as diagnosing the student's maturing cognitive processes, current statements refer to the ZPD as a component of instruction, not assessment. Such descriptions also often include a variety of classroom resources—information that is not part of Vygotsky's conceptualization.

Second, current descriptions of collaboration that cite Vygotsky as the source describe it as peer collaboration in the classroom. In contrast, Vygotsky described classroom learning differently. Collaboration, in his view, is between teacher and student. The teacher serves as the “ideal form” of cognitive behavior that the student should attain. The teacher serves in the same role as the young child’s caregivers earlier in his or her life. This relationship, identified in Vygotsky’s second law of development, is essential for cognitive development. As Vygotsky clearly stated, the teacher’s role is to work with the student on a particular question, explaining, inquiring, correcting, and then requiring the child to explain. Later, when the child works out problems in the teacher’s absence, he or she independently relies on the prior exchange. However, Vygotsky did not suggest scaffolding as an instructional method. In his discussions, the practice of the teacher completing parts of a problem is a diagnostic method, not instruction.

Third, Vygotsky described the development of subject-matter concepts (which his writings refer to as “scientific” concepts) as the key to the entire history of the individual’s cognitive development. A concept, such as triangle, for example, even at the simplest level, involves generalization. Unlike the child’s everyday concepts, subject-matter concepts in a domain can be represented in terms of other concepts, and they form an interrelated system. Mastery of subject-matter concepts means that the student can define them easily,

implement them in various logical operations, and identify the relationships among them. Triangles, for example, are the components of hexagons and other geometric figures, such as pyramids, and so on.

The importance of subject-matter concepts is two-fold. One is that science, art, and other areas can only be adequately understood through concepts. The other is that thinking in concepts reflects a high level of cognitive development and also reorganizes the other cognitive processes on a higher level. That is, the individual’s self-directed attention is governed by his or her concepts, perception becomes categorical because it is influenced by conceptual thinking, and memory becomes logical because it is organized in networks of concepts.

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See also Cognitive View of Learning; Piaget’s Theory of Cognitive Development; Zone of Proximal Development

Further Readings

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