

Vygotsky's Sociocultural Theory

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Glossary

Cognitive socialization – The process by which parents and others ensure that a child's way of understanding and operating on the world conforms to those deemed appropriate to and valued by his or her culture.

Community of learners – An approach to classroom learning in which adults and children work together in shared activities, peers learn from each other, and the teacher serves as a guide.

Cultural-historical – Change associated with the cultural history of a community of people.

Egocentric speech – A form of self-directed dialogue by which the child instructs herself in solving problems and formulating plans; as the child matures, this speech becomes internalized as inner speech.

Elementary psychological (or mental) functioning – Psychological functions with which the child is endowed by nature, including attention, perception, and involuntary memory, that emerge spontaneously during children's interaction with the world.

Genetic method – An approach to human mental processes that uses developmental analysis; it is based on Vygotsky's view that these processes can only be understood by examining how they change over the course of growth.

Guided participation – Learning that occurs as children participate in activities of their community and are guided in their participation by the actions of more experienced partners in the setting.

Higher psychological (or mental) functioning – Psychological functions, such as voluntary attention, complex memory processes, and problem solving, that entail the coordination of several cognitive processes and the use of mediators.

Interpersonal (interpsychological) – Psychological experience that occurs across individuals.

Mediational means – Psychological tools or signs, such as language, counting, mnemonic devices, algebraic symbols, and writing that facilitate and direct thinking processes.

Microgenetic – Change associated with learning that occurs over the period of a specific learning experience or episode.

Phylogenetic – Change associated with the evolutionary history of a species.

Private speech – Internalized egocentric speech that guides intellectual functioning.

Ontogenetic – Change associated with learning that occurs over the lifetime of an individual.

Reciprocal instruction – A tutoring approach based on the ideas of the zone of proximal development ZPD and scaffolding.

Scaffolding – An instructional process in which the more knowledgeable partner adjusts the amount and type of effort he or she offers to the child to fit with the child's learning needs over the course of the interaction.

Signs – Language and other conventional forms of representing thought provided by culture that support thinking and regulate interactions between the individual and the world.

Social construction – An approach to cognitive development in which knowledge is seen as acquired and developed through social processes.

Tools – Objects or artifacts provided by culture, such as literacy and technology, that support thinking and regulate interactions between the individual and the world.

Zone of proximal development (ZPD) – The region of sensitivity for learning characterized by the difference between the developmental level of which a child is capable when working alone and the level she is capable of reaching with the aid of a more skilled partner.

Introduction

This article describes the sociocultural theory introduced by the Russian psychologist Lev S. Vygotsky (1896–1934), which emphasizes the contributions of the social and cultural world to cognitive development. Following a brief description of Vygotsky's life and the context in which he developed his ideas, the essay describes the distinction made by Vygotsky between elementary and higher mental functions that is important for understanding his approach. It then discusses three critical aspects of the approach: the role of mediational means in higher

psychological functioning, the contributions of social and cultural experience in providing and supporting the development and use of these mediational means, and the primacy of the developmental or, in Vygotsky's terminology, genetic method. This article concludes with discussion of the contemporary influence of these ideas on the study and practice of developmental psychology.

Vygotsky's Sociocultural Theory

Vygotsky was a leader in the formation of a theoretical approach that emphasizes the contributions of the social and cultural world to intellectual development. This approach, which is called the sociocultural or cultural-historical approach to the study of the mind, has had substantial impact on theory and research in cognitive development in Russia since the 1920s. The influence of this perspective extended beyond Russia in the early 1960s when the first English translations of Vygotsky's writings appeared in the book *Thought and Language*. The sociocultural approach draws attention to the role played by cultural tools and signs in mediating thinking and intelligent action. It emphasizes how the social world is instrumental in the development and use of these mediational means, and therefore, is a constituent element of human intellectual functioning.

Three critical aspects of Vygotsky's sociocultural approach are the role of mediational means in higher psychological functioning, the contributions of social and cultural experience in providing and supporting the development and use of these mediational means, and the primacy of the developmental or, in Vygotsky's terminology, genetic method. This article discusses the theoretical features of this approach, including the distinction Vygotsky made between elementary and higher mental functions that is important for understanding his approach. A brief description of Vygotsky's life and the context in which he developed his ideas provides a useful backdrop for understanding this theory and the research derived from it.

A Brief Biography of L. S. Vygotsky

Lev Semenovich Vygotsky was born in 1896 in Orsha, a town in the western region of the Russian Empire, to a middle-class Jewish family. He was an excellent student in his youth and received many awards. From an early age, Vygotsky's intellectual interests were expansive. They included history, culture, social science, literature, philosophy, poetry, medicine, theater, and art. Discrimination toward the Jewish community was commonplace in Russia at this time and included quotas at universities for Jewish students. However, due to his excellent high school performance and some good fortune, Vygotsky was

allowed to attend Moscow University, where he graduated in 1917 with a degree in law. While attending the university, Vygotsky also studied psychology and literature at Shanyavskii University in Moscow. His postgraduate study was at the Psychological Institute in Moscow, where he received his doctoral degree in 1925; his dissertation was entitled *The Psychology of Art*.

In the early 1920s, Vygotsky's health began a slow but steady decline from tuberculosis, the disease that eventually killed him in 1934 at the age of 37 years. At the time of his death, he was the head of psychology at the Institute of Experimental Medicine in Moscow and one of the most prominent Russian psychologists with a large and loyal following of students and colleagues. Shortly after his death, Vygotsky's influence on Soviet psychology, as it was then called, was stalled when the Stalinist regime took hold; Vygotsky's ideas fell into political disfavor and in 1936, his writings were banned in the USSR. Two of Vygotsky's closest colleagues in the development of his ideas, A. R. Luria and A. N. Leont'ev, became prominent psychologists themselves and they helped to sustain and advance Vygotsky's ideas following his death. Stalin died in 1953, and in 1956 Vygotsky's writings were once again published in Russia and by the early 1960s they were available to scholars outside Russia. Despite his short life, Vygotsky was a prolific scholar, he wrote close to 180 articles, essays, and papers, most of which have been translated.

One of the most significant features of Vygotsky's personal history for understanding his ideas was the social and political climate in Russia during his time. Vygotsky grew up and studied in Russia during a period of tumultuous social change. In his youth, Russia was an empire that was ruled by a monarch, Czar Nicholas. It included a massive expanse of land and people from many different cultural groups. When Vygotsky was young, the social divisions within the society were clearly marked and these divisions had enormous effects on the lives of the Russian people. In 1917, the year Vygotsky graduated from Moscow University, the Russian Revolution began and the entire society was in turmoil. This revolution was devoted to Marxist ideas and the influence of these ideas on Russian society and intellectual activity following the revolution was enormous.

Vygotsky, like many other Russian scholars during this period, strived to integrate Marxist ideas into his work. As Vygotsky launched his career as a psychologist, civil war and famine ravaged the country and the entire social structure of the nation changed dramatically. Many practical social problems plagued this new nation, the USSR, including widespread illiteracy, vast cultural differences among the people of the huge country, and few services for people in need, including children with learning difficulties due to mental retardation or other forms of disabilities. Consistent with Marxist ideology, Vygotsky felt that an important role for psychology in this new nation

was to devise solutions for these types of social problems. However, to accomplish this goal Vygotsky needed to create a new form of psychology, one that stretched beyond a focus on individual performance and recognized and incorporated the breadth of human experience that was represented in these pressing social problems.

Vygotsky's Approach to Psychological Development

The sociocultural approach to cognitive development that is based on Vygotsky's ideas proposes that mental development is best understood as a product of social and cultural experience. Social interaction, in particular, is seen as a critical force in intellectual development. It is through the assistance provided by others in the social environment that people gradually learn to function intellectually as individuals.

In contrast to the emphasis on individual functioning that dominated other trends in psychology of his time, Vygotsky stressed the critical relationship between individual psychological development and the sociocultural environment in which human psychology develops and is expressed. He defined the sociocultural environment in very broad terms, including social interaction between individuals, the values and practices of the culture that appear in the routines, rituals, and customs in which people engage, and the tools and signs, most importantly language, that people use to support and extend thinking. However, Vygotsky did not view individual psychology or human cognition as a direct consequence of social experience, that is, socially determined. He proposed that human development, including cognitive development, is socially constructed. That is, in the course of social interaction, the cultural context of development, as instantiated in social behavior and cultural artifacts, and the biological aspects of the human system, including genetic, maturational, and neurological characteristics, create new understandings and capabilities. In other words, individual psychological functioning is an emergent property of the sociocultural experiences of the human organism. This means that psychological development is a dynamic and constructive process, the outcome of which cannot be known beforehand or by examining the individual and the social context separately from one another. Rather, development is generated by the processes that transpire over the course of human social experience in cultural context.

Vygotsky was particularly interested in social interactions involving more and less experienced members of a culture. As these partners collaborate in solving a problem, the more experienced partner assists the less experienced partner, the learner, in ways that support the learner's engagement in actions that extend beyond the learner's current individual capabilities. In an effective

learning situation, this engagement occurs in what Vygotsky called the learner's zone of proximal or potential development, the region of sensitivity for learning. The more experienced partner supports the learner's activity through the use of signs and tools of the culture. As the learner gains competence at the activity, the more experienced partner gradually withdraws support and, in time, the learner comes to function on his or her own in a more advanced intellectual way. Thus, the interpersonal becomes the intrapersonal. For Vygotsky, what people do and learn in the course of collaborative cognitive activity is the foundation of cognitive development and, accordingly, social activity serves as the primary unit of psychological analysis in this approach.

Like other students of developmental psychology, Vygotsky was interested in the products or outcomes of development. However, his main focus was on the processes that underlie and motivate development. He considered development as a process of qualitative change, specifically one in which change occurs in the mediational means that an individual uses to understand and act upon the world. Vygotsky was especially interested in changes that occur when elementary mental functions, such as basic perception and involuntary memory, are transformed into higher mental functions, such as reasoning and voluntary memory. For Vygotsky, higher mental functions, which he considered the hallmark of human intelligence, are the result of the transformation of basic cognitive abilities into mental processes that are capable of devising and carrying out conscious goal-directed actions. Social and cultural phenomena are instrumental to this development. For instance, the elementary form of memory, which is similar to perception and largely composed of images and impressions of events, is an unintentional and direct mapping of features of the environment. As children develop, they learn to use psychological signs and tools, like language and literacy, to elaborate and extend this basic memory function into a more deliberate and explicit form. Children do not need to devise the psychological signs and tools that support higher mental functions; they already exist in the culture. However, children do need to learn about these signs and tools and how to use them effectively to support or mediate cognitive processes and carry out goal-directed actions, like intentional or voluntary memory. Children learn this information through the assistance of people in their culture who are experienced in the psychological signs and tools that support thinking. Some of this learning is informal, emerging from the everyday experiences and interactions children have, and some of this learning occurs in more formal societal settings, such as school. Both formal and informal arrangements of learning involve signs and tools that reflect the broader cultural context.

Vygotsky was interested in a range of mediational means, both symbolic and material, including language, mathematics, mnemonic devices, artistic symbols, and

literacy. For Vygotsky, when people learn how to use and eventually adopt signs and tools that support thinking, the fundamental nature of thinking changes. Furthermore, mediators do not only support and extend an individual's intellectual functioning, they also connect the individual's thinking and action with the social and cultural context that devised and provides these mediational means.

With the assistance of more experienced partners, children develop their cognitive abilities in ways that are useful for solving the types of problems that are deemed important in the cultural setting in which they live. More experienced members of a culture, primarily family members, teachers, and older children, convey many important things about the mind and how to use it, including the types of problems that are important to solve, ways of approaching these problems, and how to use the material and symbolic tools in the culture to solve these problems. Language assumes great importance in this theory; it operates as the primary mediational means by which social partners communicate information to each other and that individuals use to guide their own goal-directed actions.

Thus, according to Vygotsky, cultural tools and signs not only support the development and use of higher mental functions, they transform elementary mental functions and, in doing so, enable thought and action that would not be possible without the use of these tools. The adoption of these tools of thinking and the social methods through which they are learned also has the broader cultural consequence of aligning the child's thought and action in ways that are consistent with those that are practiced and valued by their culture. This developmental course provides a method of ensuring that new members of a culture develop the skills needed to become competent mature members of the community. In other words, children develop the skills that are suited to the types of problems, ways of thinking, and incorporate the valued tools and practices of their culture.

Elementary and Higher Mental Functions

Vygotsky distinguished two general forms of mental functioning: those that are biologically based and innate, which he called elementary mental functions, and those which he called higher mental functions that emerge from social and cultural experience. Basic psychological functions are shared with other primates whereas higher mental processes are unique to humans and cognitively complex, that is, they draw on and integrate many intellectual abilities.

Although they build on the elementary forms, higher mental functions are qualitatively different in that they are mediated by the social and cultural world through sign

systems (e.g., language and mathematics), cultural tools (e.g., literacy and technology), and more experienced cultural members who convey to children ways of using these powerful mental abilities. Thus, higher mental processes are not simply more complex versions of elementary functions that can be accounted for solely by biological laws. Higher mental processes are qualitatively different in that in addition to biological laws, they also rely on historical laws or principles that are instantiated in cultural values and practices and mediated by signs, tools, and cultural participants. A discussion of memory processes illustrates the difference between these two types of mental functions. The elementary form of memory is constructed of images and impressions of events. This type of memory is very close to perception in that it is unintentional and the environment directly influences its content. The higher form of memory involves the use of signs to mediate memory functions intentionally and then uses memory to carry out a complex and conscious goal-directed action; for instance, an individual may write something down to remember it for later use or to communicate this information to others. In this example, literacy is used as a tool to elaborate on or extend the natural functioning of memory and it enables the actor to carry out an activity that would not be possible without the mediational means. Although this mediated example includes literacy, and therefore would apply to cultures in which literacy is present, there are many examples of mediated memory from nonliterate cultures. For example, the Quipu, which was devised and used by the ancient Incas in the land that is now Peru, was an elaborate set of knotted cords used to record important information about the community such as census figures, tax schedules, and the output of gold mines.

Four significant changes in intellectual functioning occur when elementary mental functions are transformed into higher mental functions. First, there is a shift in the control or regulation of behavior from other-regulation to self-regulation. Natural or basic mental functions are responsive to conditions in the environment, for example, involuntary memory in the form of eidetic images. In contrast, voluntary memory entails active effort by the individual to remember some information in the world. To encode and remember this information, the individual employs skills that support memory, such as selective attention and memory strategies like rehearsal and organization. Second, voluntary memory is conscious. The individual knows that a mental process, in this case memory, is being used. A third important feature of the distinction between elementary and higher mental functions is that the latter has social origins. Although elementary mental functions are natural, biological forms, higher mental functions are socially constituted. Finally, signs and tools of thinking mediate higher mental functions, a concept which scholars, such as J. V. Wertsch, who study Vygotsky's ideas consider

to be the most important and unique contribution of this approach to intellectual development.

Cognitive Mediation through Signs and Tools

The use of signs and tools to mediate human mental functioning was, for Vygotsky, the single distinguishing feature of human intelligence. Whereas other primates, and human beings when they use basic mental functions, react to and use external features of the world to guide action, human beings are also capable of creating signs, such as language and number systems, and tools, such as navigational systems and computer technology, that affect how people think and interact with the world. In other words, human beings create and live in an organized social unit, called culture, which devises signs and tools for supporting and extending human thinking and action. For Vygotsky, this capability transforms the nature of human intelligence; it frees it from its biological base and creates what is referred to as a cultural mind. Moreover, cultural signs and tools are passed across generations from more to less experienced members of the group. Children cannot devise these tools nor can they learn about them on their own. Rather, they learn about them and how to use them from people who are more experienced in their use. In short, higher mental functions have sociocultural origins. Culture, both through its members and via the artifacts in which it is represented, provides mediational means that enable the development of higher-level cognitive skills. In this way, culture and social experience transform basic mental functions into higher-level cognitive functions.

Signs and tools are not static. They change over time in how they mediate an individual's actions as new capabilities, interests, and demands emerge. They also change across generations as culture changes and confronts new types of problems and concerns. Thus, the incorporation of signs and tools into mental functioning that transforms basic cognitive abilities into higher and more complex forms reflects temporal or historical experiences of the child and the culture. Vygotsky emphasized that this is a psychological and not a sociological process. The social world and its changes are manifested psychologically. Cultural signs and tools exist, that is, they are meaningful, by operations that occur inside individuals. In development, these signs and tools are initially experienced interpsychologically. With time and experience they become intrapsychological as individuals learn to use them to accomplish goal-directed action. It is significant that these signs and tools are not arbitrary, but stem from an organized and historical system, culture, and thereby contain psychological connections to other societal members and to

cultural ancestors. When new societal conditions and problems emerge, ways of adapting must be crafted and these adaptations build upon prior forms. This process implies that full understanding of any current psychological form requires sensitivity to the individual, social, and cultural—historical forms that helped shape them.

What is important in Vygotsky's conception is that signs and tools are not merely external forces or stimuli to which children learn to respond. Signs and tools carry meaning and it is the meaning itself that is learned and adopted by children. For example, language is one of the primary sign systems that children learn. For language to contribute to cognitive development more broadly, children must learn more than just how words can be associated with particular objects or actions. Rather, they learn the meaning of words, which contains the essence of the word, such as the object of reference, along with its significance and place in the child's social world, for example, how important this object is, how it relates to other objects, and so forth. Participation in this meaning system allows the child to engage with others in meaningful, goal-directed ways as well as interpret and act upon the world in ways that make sense to other people and in their developmental context.

Contributions of the culture to cognitive development are evident in the mediational role of signs and tools in guiding and supporting thinking and intelligent action. This mediational role is conveyed to children largely through social interactions with other people, especially more experienced cultural members. Cultures also provide institutions and more formal social settings, such as rituals, that facilitate cognitive development. Formal institutions, such as school, significantly alter the ways in which people in a community think by emphasizing and providing access to particular and highly valued mediational forms. School is designed to promote and support the development of particular approaches to solving problems, including the use of certain signs and tools that aid problem solving. Less formal social institutions and social settings also influence cognitive development. For example, in cultures in which verbal explanation is highly valued, cultural practices related to this value such as oral narratives and story telling assume much importance and are part of children's everyday experience and cognitive development in that community.

Consistent with Vygotsky's formulations, as cultural signs and tools become an intricate part of intellectual activity, it can be difficult if not impossible to discern where the tool ends and the mental activity begins. The anthropologist G. Bateson offered an example that helps explain this point. When a blind man uses a walking stick, the man uses vibrations from the stick when it hits the ground to guide his steps. Where does the man's thinking about or perception of the ground begin? At the tip of

the stick where it touches the ground, where the hand and stick meet, or when the vibrations travel through the nervous system and reach the man's brain? As this example shows, when a tool is intimately tied up with a mental activity, it is part of the mental activity and all attempts to describe the activity by dissecting it into its component parts are doomed to fail. Note especially that the tool in this example, the walking stick, has no content or cognitive meaning separately from the blind man's activity. This is an important point. Oftentimes signs and tools that have been devised to support thinking are viewed as embodying the cognitive activity. However, from Vygotsky's point of view, this is not true. And following up on this view, it is not surprising that Vygotsky believed that the most important knowledge humans possess is the knowledge of different ways or means for organizing and using mental processes in specific circumstances – the very type of knowledge that is embedded in communally held practices and transmitted across generations by people who engage in and value these practices.

Vygotsky's view of the cultural contributions to human intelligence suggests that any attempt to assess children's cognitive development must consider the cultural context as a critical force. If the culturally specific nature of children's learning is ignored, he claimed that one runs the risk of seriously underestimating children's development. Indeed, many cross-cultural studies have documented that children learn highly sophisticated and complex cognitive skills that are important in their culture. More experienced cultural members play significant roles in this process of cognitive socialization because they function as the most immediate representatives in children's lives of the mediational means to support thinking. Researchers have studied several social processes that promote children's learning of culturally valued skills, such as observational learning, the social regulation of attention in infancy, deliberate efforts to transfer knowledge from more to less experienced partners, social coordination during joint cognitive activity, and cognitive socialization through conversation and joint narratives. Taken together, this research suggests that social opportunities for children's learning appear in many forms and that culture determines the frequency and manner with which these processes occur.

Vygotsky's theory leads us to an appreciation of different cultures and their values, and connects cultural values and practices directly to cognitive development. Language plays a central role in Vygotsky's sociocultural approach. The acquisition and use of language is a primary component of children's developing intellectual abilities in a social context because language provides children with access to the ideas and understandings of other people. It also enables children to convey their own ideas and thoughts

to others. Moreover, with development, language, which is a cultural product, comes to mediate individual mental functioning. In other words, as children learn to use language, it gradually becomes incorporated into their thought processes and, as a result, it both facilitates and constrains thinking.

For Vygotsky, thought and speech are independent in early development. However, around the second year of life they join together when children begin to use words to label objects. Within 1 year, speech assumes two forms: social, or communicative, speech and egocentric speech (also called 'private speech'). For Vygotsky, egocentric speech is a form of self-directed dialog by which the child instructs herself in solving problems or formulating plans. Thus, egocentric speech becomes a tool for intellectual growth and allows the child to become a more effective and skilled learner. By age 7 or 8 years, this form of speech becomes internalized in the thought process and becomes inner speech, that is, a form of speech that becomes internalized as thought. Thus, language serves as an aid for regulating cognition as well as a tool for communicating.

What is important to stress about Vygotsky's idea of mediation is the role it plays in development. Although Vygotsky did not outline or seek to define stages of development, he did see development as a process of qualitative rather than quantitative change. The types of qualitative changes he outlined were the result of changes in the forms of mediation that are used. Mediational means, both through signs or tools, function to inhibit direct and impulsive responses and facilitate the use of more consciously regulated and deliberate (or thoughtful) ways of operating on the world. For Vygotsky, these mediational means free human beings from a solely biologically based course of development and create a new, culturally based process of psychological development. For instance, before infants learn to use language, they have knowledge and carry out intelligent actions. But these processes are unmediated by language and, therefore, are absent of certain types of mental functioning that language supports. Encoding an object in a form that draws on linguistic conventions, such as grouping the object with other objects or with actions in ways that have meaning in the culture, transform how the child processes and remembers the object. This transformation serves many ends. It links the child's experience with the experiences of other people, it enables the child to communicate with others about the object, and it exists in the child's memory in a way that is amenable to reflection and reevaluation, albeit within a framework afforded by the cultural-linguistic system through which it was encoded and retained.

The idea that development is evident in the mediational means that are used to organize and support thinking was pivotal to Vygotsky's developmental method.

It directed his attention to the social experiences in which children learn these mediational means. It also allowed him to conceptualize development at multiple levels, including ontogenetic, phylogenetic, cultural–historical, and microgenetic.

The Role of the Social Experience in Psychological Development

Because of his interest in the social origins of intellectual functioning, Vygotsky was less concerned with children's individual intellectual capabilities at any particular point in time than he was with the child's potential for intellectual growth through social experience. To assess this potential and to understand how intellectual development occurs, Vygotsky proposed the notion of the 'zone of proximal development' (ZPD), which he defined as the difference between a child's "actual developmental level as determined by independent problem solving" and the child's "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." The child's ZPD is not static. Although the zone or region of sensitivity to learning is defined initially by the child's existing knowledge or competence in an area of intellectual growth, with proper support for learning the child's level of competence in this area changes, and the child's ZPD changes accordingly.

The concept of the ZPD is twofold. First, it represents an alternative approach to the assessment of intelligence – examining children's intellectual potential under optimal conditions, that is, conditions that are tailored to the child's specific learning needs and that build on the child's present capabilities. These ideas were especially relevant to Vygotsky's research in educational psychology and his concern with designing programs that could support the unique learning needs of children with disabilities or with mental retardation. Second, the ZPD represents a way of understanding how children's intellectual development occurs through social interaction with more skilled partners. As such, it builds bridges between the mind of the individual child and the minds of others.

According to Vygotsky, working within a child's ZPD – that is, with the assistance of an adult or more experienced peer – allows the child to participate in the environment in more complex and competent ways. In other words, in social interaction targeted toward the child's ZPD, a child has the opportunity to engage in more advanced cognitive activities than the child could undertake alone. This is because more experienced partners are able to break down an activity into component parts to make it more understandable and accessible to the learner. More experienced partners also help the learner by modeling new strategies for solving the problem and by encouraging and supporting the learner's involvement in the more complex components. In this process, the learner is introduced

to and has opportunity to use signs and tools devised by the culture that support thinking. Finally, the more experienced partner may take on or assume some of the more difficult task components so that the learner can concentrate on other aspects. For example, an adult may keep track of what has been done so far in the problem or in relation to the goal so that the child can concentrate on the next immediate step.

Even though children learn from various types of social arrangements, Vygotsky's perspective on the social contributions to cognitive development more closely matches the types of interactions children have with adults than with peers. Because adults are more experienced than peers with many of the skills involved in informal instructional situations, such as turn taking and creating an overall plan for the activity, adult assistance is often superior to that given by peers. Of great importance is the child's active involvement in the interaction and the solution, which adults often verbalize and which fosters the child's understanding.

Vygotsky's theory has had considerable impact in the fields of psychology and education. For example, 'scaffolding', a form of instruction inspired by Vygotsky's ideas, is the process by which the more experienced partner or teacher adjusts the amount and type of support provided so that it fits with changes in the needs of the learner over the course of the interaction. By careful monitoring of the child's progress, the teacher adjusts the task to make it manageable for the child and provides assistance when needed. In scaffolding, which has been demonstrated in a variety of tasks, the teacher gradually reduces the amount of support he or she provides as the child becomes more skilled, so that eventually the child can execute the task in a skilled fashion independent of the partner's help. Other applications of Vygotsky's ideas to educational practice appear in the method of 'reciprocal instruction', introduced by A. Palinscar and A. Brown. This approach enhances children's reading comprehension by having the learner work in close and supportive collaboration with more experienced partners who help children develop skills critical to comprehension, such as explication and elaboration. A. Brown and her colleagues also introduced another related classroom application called the 'community of learners model'. In this approach, adults and children work together in shared activities, peers learn from each other, and the teacher serves as an expert guide who facilitates the processes by which the children learn. The teacher uses the technique of scaffolding to support children's learning and the students, who vary in knowledge and ability, actively help each other learn through their interchanges.

A way of describing children's informal learning experiences outside of school situations called 'guided participation' was introduced by B. Rogoff; it too is derived from Vygotsky's ideas. Guided participation

highlights the fact that adults regularly support learning in the context of everyday activities by directing children's attention to and involvement in these activities. Sometimes these activities are child focused, such as in play or an organized game, but oftentimes they are adult activities in which the primary purpose is not to instruct children but to carry out the activity itself. In these situations, adults support children's involvement in specific but meaningful ways. For example, as a mother tries to make a cake her child may ask if he can help. The mother may agree and then structure the task in a way that gives the child some real responsibility in the activity. Over time, if the child remains interested in and continues to be involved in the activity, the child's and mother's participation will both change as the child's competence increases. Furthermore, as the child's roles and responsibilities change, the child's understanding of the activity also changes. As in Vygotsky's approach, the child is not merely a passive learner who follows the instructions or prompts of the more experienced partner. Rather, the child is a full and active participant who co-constructs with the partner, new ways of understanding and learning an activity.

For Vygotsky, the most significant aspect of social interaction for mental development is the fact that social experiences convey to children the mediational means for adapting basic cognitive abilities to higher cognitive functions. According to M. Cole, this view recasts the traditional dichotomy of nature versus nurture by proposing that it is human nature to nurture and that it is through nurturing that the individual mind grows. Vygotsky's view of the social processes that support cognitive development is broad in conception. Although he proposed specific processes of social interaction that are instrumental to intellectual development, he also emphasized other historical processes that are integrated with mental functioning and its development in his genetic method.

Vygotsky's Developmental or Genetic Method

For Vygotsky, the developmental method is the central method of psychological study. Vygotsky's interest in the processes of development led him to focus on dynamics of change, both within an individual, as captured in the idea of the ZPD, and in a culture, represented in its history and instantiated in the signs and tools that are used to organize and guide intelligent action. In contemporary psychology, the concept of development is primarily used to refer to child or adolescent development or in some cases to development in adulthood. Although the sociocultural approach has important views on and implications for understanding and studying development from this vantage, it is seen as only one of the ways in which development

can be integrated in a meaningful way in psychological analysis. As M. Cole and S. Scribner pointed out, Vygotsky's abiding concern with the origins and development of human consciousness and behavior across generations and through process of human evolution reflects his broad conception of development. This stance is consistent with his view that psychological functioning can only be understood if it is observed in the process of change. For Vygotsky, the outcome of any psychological process is not predetermined, it emerges from the complex social-biological dynamics inherent to the situation in which learning occurs. For instance, the same conditions of learning will lead to very different outcomes for a child with a learning disability compared to a child without a learning disability.

Vygotsky emphasized that human psychological growth is a product of the social and cultural history of an individual. He was interested in four different ways in which history contributes to the development of higher mental functions: general cultural history, ontological history, the history of higher psychological functions, and the history of a particular learning experience. 'General cultural history' includes aspects of human social life that represent collective means of acting and thinking, such as material resources or tools that support thinking and socially organized activities and institutions in which intelligent actions occur. These aspects of social life, which are passed across generations, regulate human thinking and behaving. 'Ontological history' is a person's individual or life history. It includes the integration of biological processes that regulate the development of basic mental functions, such as perception and practical tool-based intelligence, and sociocultural processes that regulate the development of higher mental functions, such as voluntary memory and language acquisition. The 'history of higher mental functions' examines how specific mental functions, such as remembering, classifying, and conceptualizing, have changed over human history as they have adapted to the circumstances and environments in which people live. The 'history of a particular learning experience' includes change at the microanalytic level and is captured in the processes described in relation to the ZPD.

The genetic method requires analysis that stretches beyond the conventional boundaries of psychology. Its formulation was undoubtedly aided by the expansive scope of Vygotsky's own intellectual interests and background. Vygotsky recognized that examining any psychological phenomena at all these historical levels is a huge effort. However, he was concerned that ignorance or confusion about these various levels and their roles in human psychological experience could lead to a misinterpretation of psychological phenomena. Vygotsky's rejection of any form of reductionism stems from the complexity of this view of development. He did not believe that any single factor or set of explanatory principles could explain all of mental functioning and its development. He was

critical of reductionist views of his time, such as Behaviorism, as well as theories that were broader in scope but nonetheless posited single explanatory forces for psychological functioning, such as Gestalt psychology with its emphasis on structural forms. Vygotsky emphasized the multiple forces underlying psychological phenomena and he argued that these forces were only apparent when they were 'in motion', that is, in the process of change or development.

Summary and Conclusions

Vygotsky's approach emphasizes the culturally organized and socially mediated nature of human cognitive processes. This perspective offers a view of cognitive development within the contexts in which this development actually occurs and, as such, it overcomes some of the limitations to theories that focus solely on the individual or on the environment. Vygotsky's theory has helped to make developmental psychologists more aware of the importance of the immediate social contexts of learning and cognition. In particular, through the notion of the ZPD and the related concepts of scaffolding and guided participation, this approach has pointed to new ways of assessing children's cognitive potential and of teaching reading, mathematics, and writing. Moreover, Vygotsky's approach has increased appreciation of the importance of culture in cognitive development. Vygotsky's theory also provides a way of conceptualizing the role played by sign systems and tools of thinking in cognitive development. This theory addresses how tools such as literacy and numerical systems, which are products of culture, get passed on across generations and become incorporated into the ways children learn to think and solve problems as they grow.

Limitations of this approach largely pertain to its lack of specification of processes of ontogenesis in cognitive development. Although the approach emphasizes change over time in a specific learning experience, or microgenesis, and the role of long-term historical influences on intellectual development as embodied in cultural practices, signs, and tools, Vygotsky was not specific in terms of age-related changes. Furthermore, like many other cognitive theories, this approach does not describe how changes in social and emotional capabilities contribute to changes in children's cognitive capabilities. Nor is it clear how cultural contexts that are available to children at different points of development support and promote cognitive change.

Over the last two decades educational programs that draw on Vygotskian and sociocultural views have increased. In these programs more knowledgeable people, especially teachers, play critical roles in arranging and supporting children's learning using techniques like

scaffolding, collaboration, and the provision of tools that support learning and thinking. In the main, these approaches have been successful in demonstration programs. Although Vygotsky's own ideas were informed by practical social problems, especially those pertaining to education, adapting sociocultural ideas to classroom practice beyond demonstration programs remains a challenge. In part this is because there are few systematic descriptions of cognitive development in specific academic domains that incorporate in a central way the social basis of the development and expression of these abilities and skills. There is also limited understanding of how social experience before children enter school supports the development of cognitive abilities that are important in the classroom. It is also unclear how to calibrate or scale up the social learning processes based on sociocultural ideas that have been identified in controlled laboratory research to the demands and complexity of the classroom environment. Finally, the adaptation of these ideas to classrooms with diverse populations of students presents a unique set of difficulties. The sociocultural approach does suggest that language skills are central to cognitive development. These skills serve as the medium of information exchange and as a way of organizing and representing knowledge in the head. Ensuring that children have the language skills to access the social learning experiences of the classroom is vital, especially for language minority students who are at high risk of academic failure.

Vygotsky left developmental psychology a unique and valuable legacy of ideas. His approach to the development of the mind steers the field of psychology toward an entirely different set of questions than can be found in other contemporary theories of cognitive development. The depth and breadth of Vygotsky's thinking have led psychologists, such as J. Shotter, to characterize Vygotsky as a 'complete psychologist' in that he tried to conceptualize human development along every dimension of psychological functioning. Although Vygotsky worked almost a century ago, he concentrated on issues that are important to developmental psychology today, such as the complex and dynamic nature of cognitive development, the inherent links between internal and external forces in development, and qualitative changes in mental functioning as children grow. His unique emphasis on mediational means as central to intellectual development provides a cornerstone for contemporary research in a wide range of areas including language development, social cognition, problem solving, educational psychology, child socialization, and cultural psychology.

See also: Cognitive Development; Cognitive Developmental Theories; Reasoning in Early Development; Symbolic Thought.

Suggested Readings

- Cole M (1996) *Cultural Psychology: A Once and Future Discipline*. Cambridge, MA: Harvard University Press.
- Kozulin A (1990) *Vygotsky's Psychology: A Biography of Ideas*. Cambridge, MA: Harvard University Press.
- Luria AR (1978) *The Making of Mind: A Personal Account of Soviet Psychology*. Cambridge, MA: Harvard University Press.
- Moll LC (1990) *Vygotsky and Education: Instructional Implications and Applications of Sociocultural Psychology*. New York: Cambridge University Press.
- Rogoff B (2003) *The Cultural Nature of Human Development*. New York: Oxford University Press.
- Van der Veer R and Valsiner J (1991) *Understanding Vygotsky: A Quest for Synthesis*. Oxford, UK: Basil Blackwell.

- Vygotsky LS (1978) *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Vygotsky LS (1987) Vygotsky's sociocultural theory. In: Rieber RW and Carton AS (eds.) *The Collected Works of L. S. Vygotsky, Vol. 1: Problems of General Psychology*. New York: Plenum.
- Wertsch JV (1985) *Vygotsky and the Social Formation of Mind*. Cambridge, MA: Harvard University Press.

Relevant Website

- <http://www.marxists.org> – Lev Vygotsky Archive; Lev Vygotsky – Thinking and Speaking.