

Early Childhood Research and Education:
An Inter-theoretical Focus 4

Nikolay Veraksa
Ingrid Pramling Samuelsson *Editors*

Piaget and Vygotsky in XXI century

Discourse in early childhood education

 Springer

Early Childhood Research and Education: An Inter-theoretical Focus

Volume 4

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Nikolay Veraksa · Ingrid Pramling Samuelsson
Editors

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Chapter 1

Introduction



Nikolay Veraksa  and Ingrid Pramling Samuelsson

Abstract The book is devoted to modern interpretations of the ideas of Lev Vygotsky (Vygotsky, L. S. [1981]. The instrumental method in psychology. In J. V. Wertsch (Ed.), *The concept of activity in Soviet psychology* [pp. 134–143]. Armonk, NY: M. E. Sharpe.)) and Jean Piaget (1968). These authors had a powerful influence on education. Their discourses complemented each other: whereas Vygotsky developed his theory in the direction from society (culture) to the individual child, Piaget’s movement was the opposite: from individual child to society. This resulted in two important results of the application of theories: the development of children’s consciousness in Vygotsky and the egocentrism of culture as a form of cognition of reality in Piaget. As more than 120 years from birth of Vygotsky and Piaget passed, their theories, which represented Eastern and Western views, were implemented in different cultural and educational settings. The book will give comprehensive analyses of Vygotsky’s and Piaget’s theories implementation in modern early childhood education.

The book is devoted to modern interpretations of the ideas of Lev Vygotsky (1981) and Jean Piaget (1968). These authors had a powerful influence on education. Their discourses complemented each other: whereas Vygotsky developed his theory in the direction from society (culture) to the individual child, Piaget’s movement was the opposite: from individual child to society. This resulted in two important results of the application of theories: the development of children’s consciousness in Vygotsky and the egocentrism of culture as a form of cognition of reality in Piaget. As more

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than 120 years from birth of Vygotsky and Piaget passed, their theories, which represented Eastern and Western views, were implemented in different cultural and educational settings. The book will give comprehensive analyses of Vygotsky's and Piaget's theories implementation in modern early childhood education.

These two approaches confront modern world with the need to analyze the problem of childhood: Is childhood a period of cultural exploration or is it a special form of relationship in which both the egocentrism and consciousness of the child, and the egocentrism and consciousness of culture are represented?

The book will address Piaget and Vygotsky as founders of modern issues in education. The book will analyze the problem of the relationship between the natural and the cultural in the context of Vygotsky and Jean Piaget theories. It should be noted that in parallel with the discussion of natural and cultural issues in children's development and education, which are asked by interpreters of cultural-historical theory, it is equally important to consider the problem of egocentric and objective. The cultural belongs to the characteristic of education organized by adults, and the natural comes from the child. Current trends show that there is a definite attempt and even the task of working with the natural in child development. But maybe it is time to take the slogan "Learning begins at birth", that was formulated at the Jomtien (Thailand) World Conference on Education for All in 1990 by Robert Mayer seriously, and by that realize that development and learning are not two separate processes, but two sides of the same process. It is no coincidence that V.V. Davydov said that education is a form of development. This point of view logically follows from the idea of developmental education and Vygotsky's elaboration of such a strategy for building education that would not follow development, but would lead it.

In culture, there is a tendency to develop children's creativity, which, according to Vygotsky, is based entirely on the natural and suggests going beyond culture, in other words, going into the natural. With regard to preschool education, this desire translates into a desire to use the children's play activities for educational purposes. Thus, the problem of the natural and cultural in Vygotsky arises as the problem of his centrism and the objective in Jean Piaget, and this applies to both the child and the adult, both child behavior and the culture of the kindergarten. It is important to take these trends into account when building modern education.

In relation to the child, the egocentrism and naturalness of the culture are manifested in the initial assumption that the child is less educated and more limited in his/her abilities than an adult. Although there are current trends to equalize the rights of an adult and a child, there is an educational task to reveal properties of a child that show his/her ability to learn and create new things. In other words, the child acts as the bearer of the future, and in this sense, the adult, as a representative of culture, should provide the child with the opportunity to represent him/herself.

If we consider the problem of the play in the contexts of Piaget and Vygotsky, then it is given the status of the leading activity and the form in which the zone of the proximal development of the child is represented. In this case, the play performs an assimilative function. However, there is a tendency to turn the play into a form of learning (Singer, 2007; Van Oers et al., 2008). A new problem of the possibilities for the development of the child and the possibilities that the culture has for this arises.

In this regard, the problem of means and, in particular, the role of digital space in the lives of children and society acquire a special meaning (Säljö, 2016). It may also be time to consider play and learning not as two separate entities, but as a united process of great importance for young children's education.

The reader of the book will get a view of methodology that makes possible to unite up-to-date views based on Vygotsky and Piaget theories on child development and education.

Jean Piaget and Lev Vygotsky, two prominent childhood researchers, have had a significant impact on the understanding of child development. Jean Piaget viewed child development in the context of the conditions in which the child had to act. The child's behavior was understood as an adaptation to the current situation.

It should be noted that Piaget showed that seemingly such fundamental categories that Kant spoke about: space, time, speed, object constancy, and other concepts that are not innate, but are acquired by the child as he/she interacts with the situation. Of particular note is the clear demonstration that the development of the child is fundamentally different from its interpretation within the framework of associative psychology. New systems of tasks that have been developed showed the originality of children's thought. In fact, Piaget was one of the authors of modern cognitive psychology. A feature of Jean Piaget's approach to understanding development is associated with an analysis of the mechanisms of children's activity, which are of a dual nature: According to Piaget, balance is achieved through processes such as assimilation and accommodation. It is these mechanisms that began to be considered by a number of authors as tools for thinking. Of interest is the fact that the child is viewed as an active agent performing a system of actions. In this case, the very forms of activity of the child develop into a mathematical structure that describes the ability of children to achieve balance at the level of specific operations. In fact, Piaget describes how the intellect of a child is gradually transformed into an instrument of thinking activity subordinate to logic.

While Piaget considered the influence of the natural environment on child development, or the natural factor, Vygotsky—the influence of the social or cultural factor. According to Vygotsky, child development is due to the fact that he/she masters the ideal forms or samples of culture, which are offered by adults. The mechanism—that was proposed for child development—is imitation of the cultural forms. The cultural form itself is chosen in such a way that it is in the zone of proximal development of the child. This means that the educational process has to be built in such a way as to influence children's development, that is, to lead it. Thus, it was emphasized that without an adult, the development of a child cannot be effective. If we compare the points of view of Piaget and Vygotsky, it might seem that their approaches are fundamentally different. However, the objectives of our discussion of the two perspectives presented are not related to the search for differences, but rather to the desire to show their complementarity. For example, if we talk about the role of the environment in the studies of Piaget and Vygotsky, then we can say that Vygotsky took the cultural context of the child and the environment, and Piaget took the objective, physical context. If Vygotsky's child followed an adult in his development, then Piaget's child was an active researcher of the environment. Obviously, both Lev Vygotsky

and Jean Piaget were constructivists, which only indicates another basis, which can be considered as a principle of the congruence of the two approaches. It should be noted that Piaget tried to reveal the child's capabilities as much as possible and limited the possible influence of an adult. Nevertheless, he convincingly showed that the child masters complex laws of logic. Unlike Piaget, Vygotsky tried to show the importance of an adult in child development.

Nevertheless, both Vygotsky and Piaget made transformations, according to which the child became not only a representative of a past, already established culture, but also a bearer of a future culture that was still emerging. The child's voice obtains shape in specific products that are important for peers and adults. The basis for this is the individualization of development due to the uniqueness of the social situation of development as a relationship between the child and his/her environment.

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Chapter 2

Vygotsky's Theory: Culture as a Prerequisite for Education



Nikolay Veraksa 

Abstract In the twenty-first century, works of Lev Vygotsky continue to arouse steady interest among specialists. Understanding the theories of two famous thinkers in the field of child development, Piaget and Vygotsky, began with studying the differences between them (Lourenço, O. (2012). Piaget and Vygotsky: Many resemblances, and a crucial difference. *New Ideas in Psychology*, 30, 281–295.). The differences were assessed as fundamental, since, according to Piaget, the child independently, individually, like Robinson on a desert island, creates his own knowledge. Vygotsky described the development process in a fundamentally different way, which directly follows from the general genetic law of cultural development, according to which every function in the cultural development of a child appears on the stage twice, in two planes, first socially, between people and then inside the child (Vygotsky, L. S. (1983). *Problems of the development of the psyche* (A. M. Matyushkin, Ed.). *Pedagogika*). However, as noted by Orlando Lourenço, then a second period followed—a period of searching for lines of similarity between these points of view, including the development of the child, the role of action, the dialectic nature of the method of analysis, etc. It was prompted by the realization that Piaget's theory does not ignore social relations. The converse statements were viewed as a consequence of a misinterpretation of Piaget's approach. The third stage is again characterized by a search for differences. Speaking about the differences in theoretical constructions, Lourenço highlighted the fundamental non-obvious differences. He offered the following interpretation: "In short, whereas Piaget's theory continuously revolves around the subject's autonomy when she confronts her physical and social environment, Vygotsky's thinking turns around the subject's heteronomy as she is confronted with the existing diverse social structures" (Lourenço, O. (2012). Piaget and Vygotsky: Many resemblances, and a crucial difference. *New Ideas in Psychology*, 30, 281–295., p. 292). At the same time, he emphasized that for both Vygotsky and Piaget, social contacts in child development play an important role.

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In the twenty-first century, works of Lev Vygotsky continue to arouse steady interest among specialists. Understanding the theories of two famous thinkers in the field of child development, Piaget and Vygotsky, began with studying the differences between them (Lourenço, 2012). The differences were assessed as fundamental, since, according to Piaget, the child independently, individually, like Robinson on a desert island, creates his own knowledge. Vygotsky described the development process in a fundamentally different way, which directly follows from the general genetic law of cultural development, according to which every function in the cultural development of a child appears on the stage twice, in two planes, first socially, between people and then inside the child (Vygotsky, 1983). However, as noted by Orlando Lourenço, then a second period followed—a period of searching for lines of similarity between these points of view, including the development of the child, the role of action, the dialectic nature of the method of analysis, etc. It was prompted by the realization that Piaget’s theory does not ignore social relations. The converse statements were viewed as a consequence of a misinterpretation of Piaget’s approach. The third stage is again characterized by a search for differences. Speaking about the differences in theoretical constructions, Lourenço highlighted the fundamental non-obvious differences. He offered the following interpretation: “In short, whereas Piaget’s theory continuously revolves around the subject’s autonomy when she confronts her physical and social environment, Vygotsky’s thinking turns around the subject’s heteronomy as she is confronted with the existing diverse social structures” (Lourenço, 2012, p. 292). At the same time, he emphasized that for both Vygotsky and Piaget, social contacts in child development play an important role.

In the course of a new stage, which began with an analysis of the works of Piaget and Vygotsky, Valsiner formulated the task of identifying the most promising ideas of Vygotsky in the contexts of the twenty-first century (Valsiner, 2021). Van der Veer proposed to consider Vygotsky’s works in order to determine which of the ideas presented in them can have a positive impact on the development of scientific approaches that are adequate to modern problems. He emphasized, “The idea of understanding Vygotsky never was to glorify his work, which is necessarily constrained by the social and scientific context of his time, but to allow us to understand and extend his ideas and to see whether some variant of them can help us to develop our science further” (van der Veer, 2021, p. 795).

Vygotsky’s views are usually considered in the context of the connection of his research with the study of the role of culture in the formation of the human psyche. It is important not to oppose the approach of Vygotsky and Piaget as two different views on the understanding of child development, but to show their commonality and even complementarity. Vygotsky analyzed culture as a system of ideal forms, the development of which leads to the formation of higher mental functions in a child (Vygotsky, 1996). A significant role in this process is assigned to the means developed in culture, aimed at controlling human behavior. Due to the development and usage of cultural means, natural mental functions (like natural perception that does not possess knowledge of form, size, and color) turn into higher ones (Vygotsky, 1983). However, in order to understand the issues that Vygotsky and Piaget studied in their research, it is necessary to understand the situation in psychology in which

these outstanding authors acted. The chapter briefly examines the structure of the space of psychological knowledge and the features of actions in it by Piaget and Vygotsky and discusses the dialogue of their positions.

In this way, culture limits the nature of a person, assuming following social norms that apply to a person's behavior, his/her form of mental activity, including speech and thinking, interaction with other people and appearance. Education acts as a process of transferring cultural norms to the younger generation. In this sense, new members of society, sacrificing their individuality, obeying the established rules, ensure the stable functioning of social systems. According to Vygotsky, in order to develop and interact with other people, a person needs to master the culture (Vygotsky, 1996). Education in this case appears as an essential aspect of culture and, fulfilling the function of transferring knowledge, creates opportunities for the development of not only the individual, but also the culture itself.

However, there is a problem associated with the answer to the question: "How can a person carry out the process of cultural development?" One of the fundamental functions of culture is to ensure the process of broadcasting adequate forms of behavior. In this respect, adequate behavior characterizes the state of balance between the subject and the situation, which was paid special attention to in works of Piaget.

Each individuality requires a special relationship to itself that is different from that of others. In other words, individuality is self-centered in its essence. Society, however, prefers individuality that expresses the individualities of others. This implies the need to give individuals the cultural means to express themselves through forms that are accessible to other people. As such a tool Piaget named intellect, or rather the logic behind it as the basis on which logically adequate, non-egocentric reasoning is built. For Vygotsky, the entire system of higher mental functions or consciousness, as a derivative of culture, acted as such an instrument responsible for adequate free actions. In this situation, it became natural that logic, as a system that ensures the adequacy of judgments and culture in the form of social situations aimed at the development of arbitrariness and adequacy of social interaction, act as a prerequisite for education.

Thus, Vygotsky actually considered the transformation of the individual in the process of interaction with the universal, that is, with culture (Vygotsky, 1982a). In this sense, his approach can be considered similar to the approach of J. Piaget, who described the development of individuality also in the context of interaction with the universal, but with the only difference being that logical structures acted as universal in his research (Piaget, 1969). The dialogue between Vygotsky and Piaget was possible due to the fact that they solved similar problems, which consisted in explaining the transformation of the egocentric aspects of the personality into adequate forms of social behavior.

2.1 Introduction: L. S. Vygotsky's Cultural-Historical Approach

The purpose of this chapter, as seen by its author, is not to contrast L. S. Vygotsky's approach to understanding child development with Jean Piaget's formal operational thought theory, but to show their commonality and even complementarity. Vygotsky considered the problem of education in the context of studying the role of culture in the formation of the human psyche. In his research, culture acted as a system of ideal forms, the appropriation of which leads to the formation of higher mental functions in the child. An essential role is ascribed to the means developed in culture aimed at controlling human behavior. Due to the development of means, natural mental functions are transformed into higher ones. However, if we want to understand what caused the questions that the authors posed in their studies, it is necessary to characterize the space of psychological science with which they worked. There are reasons to believe that psychology forms a unified field, a system of interrelated theories, which does not prevent them not only from being different, but even contradicting each other. The emergence of a specific theory is explained not so much by personal characteristics of individual scientists, but rather by the possibilities that objectively arise within psychology at the time of the scientific activity of a particular scientist.

Thus, the first historically developed psychological approach was associative psychology. It consisted of various trends, but all associative psychologists relied on the same general principles in their description of mental phenomena. Alongside the principle of associations, these are principles of the conscious character, discreteness and closedness of the psyche to an external observer. The principle of consciousness was formulated by R. Descartes. The principle of discreteness has actually been known since the time of Democritus and was understood as atomism. The principle of the closedness of the mind for an external observer was very pronounced in the works of G. W. Leibniz.

Amid the psychological crisis indicated by Vygotsky, the limitations of associative psychology were revealed. At the end of the nineteenth and the beginning of the twentieth century, three powerful psychological trends originated simultaneously—behavioral psychology, gestalt psychology, and psychoanalysis. Behavioral psychology was based on the principle of accessibility of mental life to an external observer. It was opposed to the principle of the closed mind immanent to associative psychology. The behavior of humans and animals started to be considered the subject of psychology. The principle of structurality was contrasted to the principle of discreteness, and the principle of the unconscious was set against the principle of consciousness. All three theories can be considered a result of the transformation of associative psychology. In this case, the associative theory is a fundamental one, whereas behavioral psychology, gestalt psychology, and psychoanalysis are first-order theories.

The views of Vygotsky are usually considered within the context of the connection of his research with the study of the role of culture in the formation of the human psyche. He studied culture as a system of ideal forms, means and forms of

behavior, the acquisition of which leads to the formation of higher mental functions in a child. Vygotzky wrote: «there is a relationship between the environment and the development of the child that is inherent only in the child's development and no other development at all. ... In the development of the child, what should come out of development, as a result of development, is already given in the environment from the very beginning. And it is not just given in the environment from the very beginning, but affects the very first steps of the child's development» (Vygotzky, 1996, p. 87).

Vygotzky explained this interconnection in this way: «In preschool age, a child still has a very limited and vague idea of the quantities. But these primary forms of children's arithmetic thinking interact with the already formed arithmetic thinking of an adult, i.e., again, the final form, which should appear as a result of the child's development, is already present at the very beginning of the child's development and is not only present, but actually determines and directs the first steps that the child takes along the path of development of this form» (Vygotzky, 1996, pp. 88–89).

Cultural means play a significant role in this process. The transformation of the inherent mental functions into higher mental functions occurs as a result of mastering cultural means. The process of turning inherent forms into cultural ones has a number of stages. Vygotzky distinguished two lines in the cultural development of a child: the mastery of tools and the use of signs. He explained that initially the world of external objects is alien to a child. But over time, a child gets closer to it and begins to master these objects, begins to use them in a functional way as tools. «This is the first stage in cultural development, when new forms of behavior and new techniques are formed to complement the innate and simplest acquired movements. The second stage of cultural development is characterized by the emergence of secondary processes in the child's behavior that reconfigure the child's behavior based on the use of such stimuli as signs. These behavioral tactics, acquired in the process of cultural experience, reconstruct the child's main psychological functions» (Vygotzky & Luria, 1993, p. 163).

According to Vygotzky, these two lines differ: «The most significant difference between the sign and the instrument, and the basis for the real divergence of both lines, is their different orientation. A tool mediates the influence of an individual on the object of his or her activity, it is directed outward, it must cause certain changes in the object, it is a means of external human activity aimed at conquering nature. A sign does not change anything in the object of a psychological operation, it is a means of psychological influence on the behavior – someone else's or one's own, a means of internal activity aimed at mastering oneself; the sign is directed inwards» (Vygotzky, 1983, p. 90). Vygotzky noted that «the transition to mediating activity fundamentally reconfigures the entire mental operation ... and immeasurably expands the system of activity of mental functions» (Vygotzky, 1983, p. 90). He designated the mental processes transformed by the sign with the term “higher mental functions” or “higher behavior”.

Thus, at first, the child relies on the inherent mental forms, then begins to master the simplest functional actions, then proceeds to the acquisition of signs. Initially, the use of signs is inadequate, «then the child gradually masters them and finally outgrows

them, developing the ability to use his own neuromental processes as means to achieve specific goals. Natural behavior turns into cultural behavior; the external tactics and cultural signs formed by social life become internal processes» (Vygotsky, & Luria, 1993, p. 204).

Vygotsky explained the genesis of this function using the example of the development of memorizing: «For the first stage of development it is characteristic that the child is able to mediate his memory only by resorting to certain external techniques ..., preserving the memories based on external signs by an essential, direct, almost mechanical retention. At the second stage of development there is a dramatic shift: the external familiar operations as a whole reach their limit, but now the child begins to rebuild the internal process of memorization which is not based on external signs, so the natural process is now indirect, the child begins to use learned internal techniques... In the development of internal mediated operations, the phase of applying external signs plays a crucial role. The child shifts to the internal sign processes because he has made it through the phase when these processes were external...

In the described operations, we observe a twofold process: on the one hand, the natural process undergoes a deep restructuring, turning into an indirect, mediated act, on the other hand – the symbolic operation itself transforms, ceasing to be external and processing ... into the most complex internal psychological systems» (Vygotsky, 1984a, b, p. 73). Vygotsky made the following conclusion: «Humans are social beings, so the socio-cultural conditions deeply transform them, developing a number of new forms and ways of behavior. A careful study of these forms of features is the specific task of psychological science» (Vygotsky & Luria, 1993, p. 204).

Vygotsky attached crucial importance to the social origin of the higher forms of behavior and mental functions: «The word “social” as applied to our subject is of great importance. First of all, in the broadest sense, it means that everything cultural is social. Culture is the product of human social life and social activity, and therefore the very formulation of the problem of cultural development of behavior already leads us directly to the social plan of development. Further, it could be pointed out that the sign, which is outside the organism, the same as a tool, is separated from an individual and serves essentially as a social organ or social means. Further, we could say that all the higher functions were not formed biologically, not along the purely phylogenetic history. The mechanism underlying the higher mental functions is an impression of the social. All higher mental functions are interiorized social relations, the basis of the social structure of an individual. Their composition, their genetic structure, their way of functioning – in a word, their whole nature is social; even when transformed into mental processes, it remains quasi-social. An individual as he is even by himself is retained by the function of communication» (Vygotsky, 1983, pp. 145–146).

Thus, according to L. S. Vygotsky, culture, being a universal medium of various forms of behavior, is a universal source of development. This fact brings his approach closer to that of J. Piaget. In his research, logical structures were considered as a universal form (Piaget, 1969). The dialogue between Vygotsky and Piaget was