

The Influence of L. S. Vygotsky on Education Theory, Research, and Practice

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Friends and colleagues, I would like to thank you sincerely for the opportunity of appearing before you to talk about the work of Vygotsky.¹ When I came here I was under the impression that I would be speaking to a group of about 30 people. I thought I would be able to sit quietly up here and have a cup of coffee while we had a pleasant conversation, and now here I am in front of this huge auditorium, and I am simply overwhelmed. But I will try to tackle the assignment that I was given!

The name of Lev Semenovich Vygotsky² is well known today among scholars in the social sciences, especially to psychologists and educators and to teachers in a number of countries. Although Vygotsky died almost 60 years ago, there is a great deal of interest today in his theoretical views and in how these views can affect the improvement and reform of contemporary education, for example in Russia and perhaps even in the United States of America.

What are the reasons for this paradoxical situation? I propose that the reasons are, first, that the deep hypothetical nature of Vygotsky's views has required a long time for them to be actually confirmed and grounded, and second, that these views have been inconsistent with the demands of education in previous decades. It has only been in the last 10 years that Russian education has actually felt the necessity of essential reform, and the views of Vygotsky became one of the bases for this needed reform, views in which were concentrated the ideas of many other outstanding educators of the first third of this century (for example the ideas of P. P. Blonsky, 1929, 1936; S. T. Shatsky, 1935; and others).

But why Vygotsky's ideas? To answer this question we need to look at the position of Soviet education in the middle of the 1980s. In the social and pedagogical relationships of our education system were all the faults, all the blemishes of totalitarian Communist society, including full subjugation of the education of young people to the interests of a militarized state that needed citizens only as devoted "cogs." Included also was the deciding and overwhelming role of the collective in the development of each person, which ignored individual peculiarities. This also included a view of learners only as objects of the process of education.

This kind of education was maximally uniform; teachers and *vospitateli* (upbringers)³ worked only as bureaucrats

carrying out Communist Party and government dictates, but basic human moral, aesthetic, and religious values were foreign to these dictates. Education of this sort could be provided only through uniform methods of upbringing and teaching/learning that were aimed in fact only at training children, adolescents, and young people. Such an education was also alien to ideas of the development of a free personality and an individual who could relate creatively to all his or her affairs.

Gorbachev's perestroika (restructuring) was particularly necessitated by the fact that Soviet society could not exist anymore with citizen-cogs. Contemporary social life, contemporary material, and spiritual conditions demand creative relationships between people and their work, and demand also an economically free personality. Gorbachev's perestroika was the beginning of democratic social, economic, and political reforms that together also demanded that education be reformed; it required deep democratization and significant changes in the internal and external forms of education.

The democratization of Soviet education, begun in 1988-1989, proceeded on the basis of a number of principles, but the most significant of these were the following—education must first of all provide for the development of human personality; education must be carried out on the basis of the individual activity of each student and take into account the particularities of his or her interests; and education must create in each student the complete variety of general human values.

These, and many other principles, were formulated and then began to be applied in the reform of our education system through the efforts of a comparatively small group

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of educators and psychologists, and the backbone of this group was made up of representatives of the scientific school of Vygotsky. This school was founded in our country between the 1930s and the 1980s on the basis of Vygotsky's views and ideas, and through the development of these views over many years of scientific investigation.

For the contemporary reform of Russian education, the following general ideas of Vygotsky are basic, ideas that have been set forth and made more precise by his students and followers. The *first idea* is that education, which includes both human teaching/learning and upbringing, is intended first of all to *develop* their personalities. The *second idea* is that the human personality is linked to its creative potentials; therefore, the development of the personality in the education system demands first of all the creation of conditions for discovering and making manifest the *creative potentials* of students. The *third idea* is that teaching/learning and upbringing assume *personal activity* by students as they master a variety of inner values; the student becomes a true subject in the process of teaching and upbringing. The *fourth idea* is that the teacher and the upbringing *direct and guide* the individual activity of the students, but they do not force or dictate their own will to them. Authentic teaching/learning and upbringing come through collaboration by adults with children and adolescents. The *fifth idea* is that the most valuable methods for students' teaching/learning and upbringing correspond to their developmental and individual particularities, and therefore these methods cannot be uniform.

These ideas (and they were presented here in a somewhat simplified form) have become the core of the basic proposal for reforming our educational system, a proposal that was first set forth in 1988 and that is in one way or another being realized today.⁴

And so in this way the views and ideas of the school of Vygotsky have had, in my view, a significant influence on the reform of Russian education. However, we need to acknowledge that this circumstance is only vaguely recognized by those educators who are actually carrying out the reforms (and, by the way, not always successfully). There are several reasons for this.

First, the ideas noted previously have many sources in the history of education and psychology—the followers of Vygotsky just expressed them in a focused way in light of his main scientific concepts, which somewhat reduces their significance. Further, the authors of the education reform proposal have tried to give these ideas a shape that would be maximally accessible to the practitioners carrying out the reforms. This, of course, evened out some of the scientific subtlety of the views of Vygotsky himself.

And, finally, the authors of this proposal, and I include myself in their number, specifically did not set themselves the task of pointing out the scientific and historical roots of the proposal—I thought specially about this question only when I sat down to write this speech for an American audience. We Russian scholars are often late in thinking about such issues. I truly envy (in the best sense) American specialists for being able to publish a large and interesting collection of articles in 1990 under the title *Vygotsky and Education* (Moll, 1990).

Unfortunately, there still is no such book in Russia. But we very much need one, because, as I have said, I am convinced that one of the genuine theoretical bases for the

reform of our education system is the views and ideas of Vygotsky. We seriously need to recognize this so that we can in the future carry out these reforms in a more intentional way and with fewer mistakes.

And so it is clear to us why Vygotsky's general ideas could not be used for such a long time in the education system of a totalitarian society—they simply contradict all of its principles. And at the same time, it becomes understandable why these ideas, which have become more concrete in contemporary theories, are so necessary for us as we create an educational system oriented toward democratic and humanistic principles.

I have said a bit about the role of some of Vygotsky's ideas for the reform of education in Russia. But I also need to examine the question of the influence of his ideas on research in the general sphere of education, on the influence of this research on the creation of a psychological and pedagogical theory that has important significance for the improvement of education in many other countries, and in particular on education in the United States.

Of course, I cannot avoid touching upon the particular scientific problems of Vygotsky's conception, the problems of interrelationship with certain other conceptions, and also the problems of the further development of the conceptions of his students and followers both in our country and other countries.

The listeners in this audience probably already know a great deal about the life and views of Vygotsky. I will note that the prominent American philosopher and historian of science Stephen Toulmin, in one of his articles (Toulmin, 1981), called Vygotsky "the Mozart of Psychology," its genius. But all the same I want to briefly recall the basic steps of Vygotsky's life, and by doing this show that Vygotsky's scientific genius appeared as a natural synthesis of many scientific and cultural achievements of Russian society of his time.

Vygotsky did not have a long life as a scientist, but he lived intensively, brilliantly, and creatively. He worked in the most varied psychological fields—he was the talented author of works on the method and history of psychology, on general, developmental, and educational psychology, on the psychology of art, on mental retardation, and clinical neurology. And each of these fields felt the salutary influence of his bold, original ideas. At the same time, there was one field in which his true interests were concentrated—the field of the development of consciousness and human personality.

Vygotsky was born in November of 1896 in the city of Orsha to the family of a bank worker. He graduated in 1917 from the law faculty of Moscow University, and at the same time, from the historical and philosophical faculty of Shanyavsky's Popular University. After that he worked as a teacher in the Byelorussian city of Gomel.

From 1924, Vygotsky lived in Moscow and worked at the Institute of Psychology and also at the Institute of Defectology (Mental Retardation and Special Education). Later, he gave courses at a number of institutes in Moscow, in Leningrad, and in Kharkov. He died in Moscow at the age of 38 in June, 1934.

In these years of his scientific activity Vygotsky brought together around him a circle of young scholars who subsequently created an outstanding school of Soviet psychology. This school included such psychologists as A. R.

Luria (1973, 1993), A. N. Leont'ev (1977), L. I. Bozhovich, P. Ia. Gal'perin (1974), E. V. Il'enkov (1984, 1991), A. V. Zaporozhets, V. P. Zinchenko, D. B. Elkonin (1971), and others. These scholars worked out their own psychological theories, now widely known; taken together, these have a single foundation, a foundation that Vygotsky himself established.

Now, in a number of countries, including the United States, Vygotsky's followers are at work. They are trying to deepen and modify the main ideas of the founder of their scientific school in accordance with contemporary demands.

Vygotsky himself, and his students, were not subjected to political arrests in the years of Stalin's regime, although in the mid-1930s the science of pedology was prohibited in our country.⁵ The Stalinist Party bosses decreed it to be reactionary bourgeois pseudoscience. And because Vygotsky had connected some of his work with problems of pedology, after his death and until the mid-1950s, it was forbidden to discuss, to disseminate, or to reprint any of his work. Part of his most serious work did not see the light of day until the 1980s.

In fact, Vygotsky's work was ideologically repressed and for long years was almost unknown to our own young scholars. This inflicted great harm on our psychology and pedagogy, and on our educational system. And by the way, because of this repression, certain of Vygotsky's works became known in the West only very lately, in the 1960s.

The situation became a matter of curiosity. Vygotsky's outstanding book, *Pedagogical Psychology*, which is directly related to the contemporary reform of Russian education, was for ideological reasons not published in our country until 1991. This book first appeared in 1926. It was forbidden in the mid-1930s, and until 1988 one could only read it in a single central library in Moscow by special permission of the secret police (Vygotsky, 1926/1991).

This book, unfortunately, has not been published in the United States and is essentially not known to anyone, but I think it presents serious scientific and practical interest in these times, and I am going to introduce certain theses from this book in the latter part of my talk.

It has become usual for historians of psychology to think that Vygotsky's work is a special "phenomenon"; he was a young person who had just entered the field, but who immediately made a substantive critique of its basic tenets while proposing a countervailing set of serious theoretical ideas, the experimental development of which opened new horizons in psychology. I think that the "phenomenon of Vygotsky" had the following causes.

Vygotsky's views were formed in Russia's revolutionary years and reflected scientific and social ideas of that time, ideas connected with a well-defined understanding of the regularity of human historical development. This kind of understanding was presented, in particular, in Marxist philosophy. Vygotsky made it the basis of his world view. This important circumstance can be expressed in Toulmin's words, who wrote:

Vygotsky was happy to call himself a Marxist. The historical-materialist approach ensured the success of his scientific investigations; this was the philosophy that armed him, gave him the basis for integrating the sciences of developmental psychology, clinical neurology, cultural anthropology, the psychology of art. This is what we,

psychologists of the West, must now study seriously. (Toulmin, 1981)

Even when he was still a student, Vygotsky seriously studied the history of philosophy (and so he knew well both classical philosophy and the philosophy of Marxism). Because he was a person of exceptional abilities, he worked from the very start simultaneously in several fields of the humanities—in the study of literature, of theater, the psychology of art, and educational psychology. At the same time, during the period of his life spent in Gomel, he studied works on the physiology and the psychology of behavior, works on the physiology of the nervous system. Then, turning to research on the problems of psychology, he found himself at the same level as his peers in the humanities and natural sciences.

It was just this many-sidedness of Vygotsky's knowledge that allowed him to create a psychological theory that was connected in its very roots to Russian culture and science of the first decades of the 20th century. Vygotsky was a legitimate representative of what was in many respects the most important period in the history of Russian culture and science.

For example, the conception of the sign-symbol basis of mind that Vygotsky developed is connected with the theory and practice of Russian symbolism, a movement that manifested itself brightly in poetry, in art, in theater, and in cinema. Symbolism stood in opposition to naturalism in art, something that is distinctly visible in the works and verse of Belyi, Blok, Mandelshtam, Pasternak, and many others, in the performances of Meyerhold, the films of Eisenstein. For Vygotsky, a great connoisseur of art, this opposition took the form of scientific protest against naturalism in psychology.

The problems of thought and language, as well as the problems of the origins and functions of consciousness, occupied a large place in Vygotsky's scientific investigations. Such well-known Russian scholars as G. G. Shpet, N. Ia. Marr, and M. M. Bakhtin (1975) also worked in these areas. They were all concerned with the problem of the production of language, properly considering it the basis of consciousness. Shpet was one of the first to develop the notion of the functional structure of the word, distinguishing in it an internal and external form, and underlined the role of mutual transitions between these. Marr traced the genesis of language and connected its production with the realization of object-oriented practical actions, and also with symbolic (gestural-kinetic) forms of representation and expression of these activities. M. M. Bakhtin developed ideas of dialogic and polyphonic nature of consciousness.

These researchers unquestionably exerted significant influence on the development of Vygotsky's ideas on the formation of human consciousness. For in his works we find the problem of the internal and external, the idea of the connection between actions and conscious signs.

Vygotsky was personally acquainted with many of these cultural and scientific figures (he was friendly with some of them), and knew others from their publications. But by introducing this cultural background of his life, I do not at all want to suggest that he merely borrowed a set of his predecessors' and contemporaries' ideas. Of course, he did some of this. In science, it does not happen any other way. But it was important for us to show the spirit of the time

and the atmosphere of the searches of that time, and to show that the problems of activity and human consciousness occupied many outstanding representatives of Russian science and culture who were working in those years.

Each of these was deeply original in establishing his own scholarly direction. And so for all their closeness, Bakhtin remains Bakhtin, and Vygotsky, Vygotsky. And for historians of science, it is a most interesting task to think about and understand their connections and the possibilities of synthesizing ideas of activity and the creation of human consciousness, ideas developed by outstanding representatives of art, philosophy, linguistics, literature, physiology, evolutionary biology, and psychology.

We have shown the general cultural and general scientific roots of Vygotsky's psychological theories, and how they are connected with our Russian traditions. But in old Russia, psychology was significantly less developed than in the West. This was especially true as regards experimental psychology. When Vygotsky turned his attention to psychology, he began to master energetically the experience of world psychological science.

This mastery was transformed into a creative reworking of the theory of behaviorism, gestalt psychology, functional and descriptive psychology, genetic psychology, the French school of sociology, and Freudianism. Vygotsky published the results of this work in numerous forewords to Russian editions of the books of Western psychologists, and in critical historical essays.

His criticism of various theories was always constructive. Vygotsky attentively and carefully treated factual, experimental material, gathered by the various trends and schools of Western and Russian psychology.

But Vygotsky was not a gatherer of facts. He regarded facts through the prism of his own conception, which, in fact, he never considered finished. Thanks to this approach to facts he succeeded in interpreting a huge amount of material and presented it in a structured system in his lectures, articles, and books.

Vygotsky's principal scientific achievement is his well-known cultural historical theory of psychological development, development of the personality. Let's lay out the main theses of this theory, the basis for Vygotsky's special ideas that we are actively using now in the reform of our education system (I want to note that I formulated these ideas a while ago).

First, according to Vygotsky's cultural-historical theory, the development of human personality takes place during its upbringing and teaching, and has a specifically historical character, content, and form; therefore, in different historical eras, we see different types of individual psychological development. Second, the development of a personality takes place during changes in the social situations of a person's life, or during changes in the types and kinds of his personal activity. Third, the basic form of carrying out activity is in joint-collective enactment by a group of people through their social interaction. Fourth, the individual way of carrying out activity is the result of internalizing its basic form. Fifth, an essential role in this process of interiorization is played by systems of signs and symbols, created through the history of human culture. Sixth, the assimilation by a person of historical values of material and spiritual culture in the process of that person's teaching and upbringing takes place through that

person's carrying out of personal activity in collaboration with other people.

The genuine sense of this theory of Vygotsky's is, in my view, that the genuine, deep determinants of human activity, consciousness, and personality lie in the historically developing culture, embodied in various sign and symbol systems.

This theory, of course, is connected with the "cultural-historical" line that existed in the humanities in the 19th century. But in contrast to other representatives of that line, Vygotsky introduced into psychology the notion of collective activity in its universal, generic manifestation.

One pole of his cultural and historical theory is represented by the concept of the historically developing generic, that is, the collective activity of people (and from this it is only one step to the concept of the collective subject and of collective consciousness). A second pole is represented by individual activity, by the concept of the individual subject and individual consciousness.

For Vygotsky, individual consciousness is determined by the activity of the collective subject. For it is just this activity that in the process of interiorization forms individual consciousness. As Vygotsky wrote,

In the development of the child's behavior, the genetic role of the collective changes. The child's higher functions of thought first appear in the collective life of children in the form of argument and only later lead to the development of reasoning in the child's own behavior. (1987, vol. 3, p. 141)

This thesis of Vygotsky contains a general resolution of many problems of psychology, of upbringing and of teaching, that is, the problems of education.

We ought to note that, in some contemporary philosophical-psychological works, the particulars of the individual and collective subject are specially discussed. Thus, writes Professor V. A. Lektorsky: "The individual subject, his consciousness and perception, must be understood, considering their inclusion in various systems of collective practical and cognitive activity" (1980, p. 281). And further: "The collective subject exists in a certain sense outside of each separate individual subject. The collective subject reveals itself and the laws of its functioning not so much through internal structures of individual consciousness, as through external object-oriented practical activity and collective cognitive activity with systems of objectified knowledge" (p. 283).

In other words, the fundamental and genuine subject of all activity (especially objectively practical) is the collective subject. Only when immersed in all the variety of collective forms of activity does the individual acquire the quality of bearer of conscious regulation of its own activity.

Vygotsky's thesis about the primary role of collective activity in the formation of the individual subject led him naturally to another very important problem. This is the problem of the nature of the ideal. For traditional psychology, the ideal (if it was recognized at all) was situated in the consciousness of an individual. Vygotsky looked on the ideal in a quite different way.

We could explain his views on this question in the following way: The ideal cannot be discovered or understood at the level of the consciousness of a single person; the ideal is an aspect of culture. Behind the ideal, behind the

world of culture, and determining it, stands the objectively practical activity (first and foremost work activity) of a social subject in its historical development.

Vygotsky wrote: "Culture is in fact the product of human social life and the social activity of human beings, and therefore the very act of putting the question about cultural development of behavior already leads us directly into the social plane of activity" (1987, vol. 3, p. 145-146).

From this point of view, in psychology one cannot talk about the determination of consciousness by activity and ignore the plane of the ideal or the cultural. In speaking about the ideal (or the cultural) as a determinant of individual consciousness, one has to recall the superindividuality of the ideal.

Thus, Vygotsky understood the mechanism of determining individual consciousness by activity as mediated by culture and by the ideal. Vygotsky considered signs and symbols, which possess stable meanings formed in the course of cultural development, to be the real carriers of culture, embodying the ideal.

The sign as a transmitter of cultural-activity determination is on the one hand superindividual, objective, and belongs to the world of culture.

"The sign," Vygotsky noted, "is located outside of the organism just as a tool is, separate from the personality, and is in reality a social organ or social medium" (1987, vol. 3, p. 146). On the other hand, the sign also exists in the consciousness of the individual subject.

The notable Russian philosopher and psychologist Eval'd Il'enkov developed a similar approach to the ideal during the 1960s-1980s. His conception is laid out well in the book *Philosophy and Culture*, published in Moscow in 1991 as part of the prestigious series "Thinkers of the 20th Century."

If we enrich Vygotsky's general ideas with E. V. Il'enkov's propositions, then contemporary psychology and pedagogy take a significant step forward in the study of the creation and development of the consciousness of the individual subject of activity. And an understanding of these processes, if you will agree, has great importance for the improvement of education.

I can inform you that the problem of the interrelationship between the theories of Vygotsky and Il'enkov has been analyzed in a detailed way recently in the large book by the English and Canadian philosopher David Bakhurst, *Consciousness and Revolution in Soviet Philosophy: From the Bolsheviks to Eval'd Il'enkov* (Bakhurst, 1991).

So the outline of the formation of individual consciousness that Vygotsky created could be represented in the following way: "first, collective activity, then culture, the ideal, sign or symbol, and finally, individual consciousness." We cannot overestimate the significance of this outline as a deep theoretical basis for organizing all of education. But very unfortunately, this outline in all its integrity has still been very poorly used by educators and practicing teachers in organizing the processes of instruction and upbringing. This is surely the case in our country, but it seems to me ours is not the only country. The need for a special organization for the collective activity of children is especially poorly taken into account, and the nurturing significance of the collective subject is almost not considered.

At the same time, Vygotsky's outline has also been little studied by scholars. It has been difficult for them to com-

bine two traditions—the approach to culture as a superindividual phenomenon, and the analysis of individual consciousness. Some scholars, accepting the importance of Vygotsky's ideas about collective activity, then reduce collectivity to a simple sum of the actions of a group of separate people. In this case, every person is viewed as fundamentally autonomous.

This kind of understanding of the problem contradicts the essence of Vygotsky's theory. Such an understanding contradicts his idea about collective activity as a genetic point of departure in the formation of an individual person's consciousness. We should note that Vygotsky already foresaw this possible incorrect interpretation of his own theory.

Thus, in his own time, he wrote the following:

Many authors have already pointed to the problem of internalization, the transfer of behavior inward. . . . Bueller reduces the entire evolution of behavior to the fact that the field of choice of useful actions is transferred from the outside inward.

"But this is not what we have in mind," Vygotsky underlined,

when we talk about the external stage in the history of the child's cultural development. For us, to talk about a process as "external" means to talk about it as "social." Every higher psychological function was external because it was social before it became an internal, individual psychological function; it was formerly a social relationship between two people. (1987, vol. 3, pp. 144-145).

It is just in this context that we have to consider the true significance of this proposition of Vygotsky: "Every function in the cultural development of the child appears on the stage twice, on two planes. First, on the social plane, and then on the psychological; first, between people, and then, inside the child." (1987, vol. 3, p. 145).

We have full reason to suggest that these tenets of Vygotsky are the theoretical and psychological base for his idea of collaboration between adults and children, and of collaboration among children in the process of their upbringing and teaching. And at the same time, these tenets are one of the theoretical sources for the concept of the "zone of proximal development," which was introduced into science by Vygotsky himself. I will note that, over the last decades, the substance of this concept has become more and more interesting to Russian scientists and, as I understand it, also to scientists in the United States (you have been carrying out symposia and publishing books on this theme).

It is also important to say that the problems of collective activity of people, especially children, as the true basis for the development of their consciousness and personality, have in the last few years become a subject for deeper study on the part of specialists from various countries (I would note such scholars as A.-N. Perret-Clermont, Y. Engestrom, G. Tsukerman, V. Rubtsov, Ju. Poluyanov, and others). The results of this research, as the experience of my own personal laboratory has demonstrated, have serious practical significance for the processes of improving education.

And now I want to dwell for a moment on one of Vygotsky's most complex questions: the interrelationship of the

collaboration of a child and an adult, and among children themselves, with their personal activity in mastering the values of culture. Yes, Vygotsky considered—and this is what we are trying to show right now—that the social interaction, the collective activity of the child and adult, and among children themselves, is the genetically fundamental form of their individual psychological functions, and in particular of the functions of assimilation.

But at the same time, Vygotsky proposed that to this collective activity, to this collaboration, every child brings a personal contribution at the child's own level. In fact, this is what is really collective activity of a group of people, and not the one-sided activity of one adult with one child. This interaction is a kind of help to each other. The functions of the adult and the child in mutual assistance, of course, are different. Their experience and possibilities are also different, and yet all the same, this is still real collaboration.

From Vygotsky's point of view, the main figure in this collaboration is the child him or herself as an authentic subject. The adult, either the teacher or the upbringer, using the possibilities of the social milieu in which the child lives, can only direct and guide the child's personal activity with the intent of encouraging its further development.

Let's consider an excerpt of the remarkable book by Vygotsky noted earlier, *Pedagogical Psychology*, which in his own words confirms this important statement of his theory that we have formulated (you will have to excuse me for introducing so many of these excerpts, but their scientific significance justifies it). So, Vygotsky wrote the following.

The personal activity of the student must be placed at the base of the educative process, and all the teacher's art must come down to directing and regulating this activity. (1926/1991, p. 82)

A psychological law states: before you want to involve the child in some kind of activity, interest the child in it, being concerned to make sure that the child is ready for this activity, that all the child's strengths needed for it are exerted, that the child will act for him/herself, and that for the teacher remains only the task of guiding and directing the child's activity (1926/1991, p. 118)

In other words, according to Vygotsky, a teacher can intentionally bring up and teach children only through continual collaboration with them and with their social milieu, with their desires and readiness to act together with the teacher.

This fundamental idea, formulated by Vygotsky, has its deep premises in the works of a series of important educators and psychologists (for example, in the works of F. A. W. Diesterweg, J. Dewey, and others). Vygotsky grasped these premises very well and concisely formulated them in the form of a special psychological law.

For the reform of Russian education, understanding this law has special significance because, working from it, we can confidently overcome the authoritarian pedagogy that until recent times ruled in our educational system and that ignored the possibility of a child's carrying out personal or individual activity.

Many supporters of such reforms, as they seek practical changes, work from these views of Vygotsky, and also from the multidisciplinary theory of human activity. The achievements of this theory are associated with German

classical philosophy, with the early works of Marx, later with the works of J. Dewey, M. Weber, and also with the research of the Russian scholars S. L. Rubinshtein (1976), A. A. Leont'ev, E. V. Il'enkov, and others.

It is not by chance that the students and followers of Vygotsky also support activity theory, that they develop and use it in improving education. But an examination of the correspondence of Vygotsky's views with activity theory does not fall within the bounds of our presentation here, although it is a very interesting question.

Some listeners may have the impression that the predominance in Vygotsky's ideas of the concept of the self-activity of the child in the processes of the child's upbringing and teaching is evidence of his attachment to the ideas of the famous concept of *open teaching*. But this would be a pure delusion. In fact, Vygotsky continually and carefully analyzes the activity of all participants of the truly educative process: the child, the child's social milieu, and the teacher. He especially discusses the problem of the ethical and pedagogical goals of education. "The educative process," Vygotsky said, "is active in three ways. The student is active, the teacher is active and the milieu which they have constructed is also active" (1926/1991, p. 89).

It is worth noting specially that Vygotsky did not recognize the presence of some separate reality containing only the "teacher and child." He singled out and studied the dynamic social surroundings that connect the teacher and child (that is, the other adults and children with whom a given child actually lives and interacts). The teacher's work is particularly complex because, in the first place, the teacher must be well oriented to the regularities of the child's personal activity, that is, know the child's psychology; in the second place, the teacher must know the particular social dynamics of the child's social setting; and in the third place, the teacher must know about the possibilities of his or her own pedagogical activity to use these sensibly and thus raise to a new level the activity, consciousness, and personality of his or her charges. This is why the work of a genuine teacher can never be stereotyped or routine; the teacher's work always carries a profoundly creative character.

Specialists from many countries fully correctly connect the views of Vygotsky with the view that the psychological development of the child should be seen in the context of that child's education and upbringing. And Vygotsky is still seen as an important authority in the area of *development-oriented education*.

Let's look in particular at a number of theories that in one way or another touch on the relationship between the education of a child and that child's psychological development. In my view, we can identify three of these basic theories today.

The first of these we could call the *theory of the independence of psychological development* from education and from upbringing of a human being (as in the works of Cessell, Freud, Piaget, and others). Psychological development is seen here as a fully independent process, the results of which are merely used in education and upbringing. Even today, many theoretical psychologists describe the regularities and stages of children's development without regard to how and what children are taught and how they are brought up (and therefore this kind of child psychology is set forth as independent from educational psychology).

The second theory recognizes the *interdependence of psychological development and upbringing* (for example, the works of G. S. Kostyuk, N. A. Menchinskaya, and others). According to this theory, development is defined by certain internal factors and at the same time by teaching and upbringing, the concrete character of which depends on the real level of human development.

The third theory proposes that psychological development occurs through teaching/learning and upbringing, which appear as its necessary and general forms (e.g., the work of Vygotsky, Leont'ev, El'konin and others). These forms can be thought of as various types of spontaneous and specially organized interactions of the child with adults, of one person with other people—interactions through which a human being assimilates the achievements of historically shaped culture. This sort of assimilation plays an essential role in a person's development.

In other words, in terms of its content, psychological development is an independent process, but it proceeds through interaction, through assimilation, and through teaching and upbringing.

We ought to look at psychological development through the prism of the relationship between content and form, through the dialectic of their mutual connections. From this point of view, one cannot study development without discovering the role of assimilation, the role of one or another form of teaching and upbringing.

And these famous expressions of Vygotsky's are connected with this theory: "Teaching must lead development forward," and not lag behind.

Pedagogy must be oriented not to the yesterday, but to the tomorrow of the child's development. Only then can it call to life in the process of education those processes of development which now lie in the zone of proximal development. (1987, vol. 2, pp. 252, 251)

The theory of developmental education allowed Vygotsky to introduce into educational psychology the concept of the *zone of proximal development*, which has the following sense: What the child is initially able to do only together with adults and peers, and then can do independently, lies exactly in the zone of proximal psychological development. Both scholars and practitioners are now using this concept more and more often in the sphere of education (I noted a little about this earlier).

We have formulated only the general sense of the theories enumerated previously. Each has, of course, corresponding bases and concrete specifics that would suggest the framing and analysis of many questions.

We could also say that the first and the third theories are alternatives. Many Russian teachers either consciously or spontaneously take the position of the first theory (some educational scholars have similar views). But the majority of teachers and scholars who are trying to reform our educational system affirm the third theory, Vygotsky's theory about developmental education. As we see, the theory and practice of education now come directly into contact in the issue of developing students. And here, much in practice depends on what theoretical positions teachers and scholars are able to take.

These questions, for example, arise regarding the third theory:

1. Will any type of education encourage the development of fundamental new human psychological formations?

2. What is the concrete connection between teaching as a form of development and the content of this process itself?

3. What distinctions are there between spontaneous and specially organized developmental education? And so forth.

All these questions, of course, need special consideration. Here, we note that the problems of developmental education today are expedient to discuss in relation to one or another specific age, in relation to specific new formations, in connection with the organization of a specific type of education.

In my talk, I have tried to lay out the basic propositions of Vygotsky's conception, their internal links to those of his ideas that are very important today for the reform of Russian education. These ideas are not only important, but are also being used already to some degree in our educational practice (especially the idea connected with the organization of developmental teaching). Vygotsky's ideas, of course, could also be useful in the sphere of education in other countries.

And now I want to say a little bit more about Vygotsky's influence on the conduct of research connected with the needs of education. His concepts and the needs of education are inseparably linked together. And therefore almost all of his Russian students and followers have worked so as to take these demands into account (this includes Leont'ev, Bozhovich, Zaporozhets, El'konin, L. V. Zankov [1975], and so on).

We can understand Vygotsky's true influence on these sorts of scientific investigations if we consider that child and educational psychology have undergone two basic steps in their development. The first of these was connected with the use of what is basically a constituting method of research, and psychology in this case was for the most part a descriptive discipline.

This kind of psychology formulated the basic stages of a historically determined childhood in such concepts as "the development of the mind" and "the laws of the development of the psyche" (for example, it described modes of children's mental activity that were already historically determined). At this stage, psychology still did not have the means needed to reveal and explain the internal mechanisms of assimilating knowledge and of children's psychological development. One of the most critical moments in the history of psychology was Vygotsky's conception that specific functions are not given to a person at birth but are only provided as cultural and social patterns. Therefore, human psychological development is accomplished, as Vygotsky proposed, through assimilation of these patterns, assimilation that takes place in the process of teaching and upbringing.

As a result, first, premises were formulated for studying the internal links of various methods of upbringing and teaching with the corresponding character of psychological development of the child. And second, necessary conditions were demonstrated for introducing a new type of experiment into psychological research as a special method for studying the essence of these relationships.

Vygotsky and his colleagues began to use the so-called "causal-genetic method," which allowed them to investi-

gate the process by which new psychological formations arise. By this, Vygotsky considered "that the genuine genetic analysis of a process would be its systematic reproduction in a teaching experiment" (Gal'perin, 1966, p. 26). The use of this research method was associated with a qualitatively new step in the development of psychology.

For this new type of experiment, what is distinctive is the active intervention of the researcher into the psychological processes being studied. In this way, it is significantly different from the verification method of experiment that shows only the current state of one or another psychological function.

The idea of this kind of experiment is also beginning to be recognized in other countries. And so in one book on social psychology that was published in 1988 (Bar-Tal & Kruglanski, 1988), it is noted that it is necessary to recognize the unity of research and practical influence; it is necessary to study the entire personality including its "life context."

Carrying out experiments of this new type requires design and modeling of the content of formed new psychological phenomena, of pedagogical means and ways of their creation. Through studying the ways of realizing this kind of design or model in the process of instructional activity with children, it is also important to study the conditions and regularities of the origins, and the genesis of corresponding new psychological formations.

"Only in genesis," wrote our famous psychologist Gal'perin, "are the genuine structures of psychological functions revealed: When they are finally put in place, their structure becomes unbreakable," and further, it "descends into the depths" and is covered over by a "phenomenon" of a completely different sort, nature, and structure (1966, p. 26).

This new type of experiment I think we could call a *genetic-modeling experiment*. It embodies the unity of research on psychological development of children with their upbringing and teaching.⁶

This method is based on the design and redesign of new programs for upbringing and teaching, and of the methods for implementing these. In this way, experimental nurture and teaching are realized not as an accommodation to an available, already established level of children's psychological development, but rather as the use of those approaches in the interaction between the teacher-upbringer that will actively form in them a new level of the development of their abilities.

Our famous psychologist S. L. Rubinshtein wrote the following:

We introduce elements of pedagogical influence into the experiment itself, building our study by a type of experimental lesson. In teaching the child, we try not to fix the stage or level on which the child is found, but rather to help the child move from this stage to the next, higher stage. In this movement, we study how the child's psyche develops. (1976, vol. 1, p. 61)

In this way, the genetic modeling method of research can be seen as a method for the experimental, developmental upbringing and teaching of children. Creating this research method sets a serious task for psychology, and testing and using this method assumes the establishment for these purposes of special experimental institutions.

Developmental upbringing and teaching deals with the entire child, the child's entire activity, which reproduces in the individual socially created needs, capabilities, knowledge, and ways of behavior. This activity, if we see it as a special object of study, includes social, logical, pedagogical, psychological, and physiological aspects in its unity.

And therefore, developmental upbringing and teaching by their very essence can only be studied in a complex way by specialists from a number of different disciplines—by sociologists, logicians, educators, psychologists, physiologists, and others. Only through their collaborative research work can we define ways to improve the effectiveness of developmental upbringing and teaching. We have already collected a certain amount of experience through our collaborative work, but we have to recognize also that creating a strategy for its further development and ways to organize it remain a matter for the future.

The intensification and purposeful study of the problem we have reviewed here can only be carried out in special experimental institutions organized toward that end (kindergartens, schools). Only there can we study over a comparatively long period the influence of various forms and methods of developmental upbringing and teaching on the psychological development of a fairly large number of children, assuring in this way complex control over the activity of upbringers, teachers, and children.

The working group that El'konin created in his time, and that I now lead, has carried out and is carrying out its research on the basis of this new method of experiment in certain cities and rural regions of Russia. The basic task of this group is to use Vygotsky's ideas to create new methods of teaching and upbringing for school children that would improve the development of their activity, their consciousness, and their personality.

The special ways of organizing teaching/learning and upbringing work with children that my group found have been reflected in new textbooks in mathematics, Russian language, chemistry, geography, and other teaching disciplines.⁷ Use of these textbooks in some dozens of ordinary schools has demonstrated a serious developmental effect. The testing of the developmental influence of our approaches is continuing.

The results of my theoretical and experimental research have been rather thoroughly laid out in quite a few publications. Some of these are available here in English. Two of my books have been translated into English and published in the United States—*Problems of Developmentally Oriented Teaching* (Davydov, 1988a-e) and *Types of Generalization in Instruction* (Davydov, 1990).

My colleagues' (and other groups') organization of developmental instruction for students bears witness, on the one hand, to the significant practical results of Vygotsky's scientific conception and, on the other hand, to the large possibilities for using that conception to reform our educational system.

In my presentation, I have tried to describe the basic content of Vygotsky's concepts, and to show their influence on educational theory and on contemporary methods of research. At the same time, it was very important for me to show that these concepts in fact have a real influence on the reform of education in Russia. However, in my opinion, Vygotsky's ideas can also help educational researchers and reformers in other countries, including the United

Slates. The heuristic and practical possibilities of Vygotsky's conceptions are far from exhausted.

Thank you, dear colleagues, for your good natured attention and patience!

Notes

This speech was translated and additional explanatory comments from Professor Davydov were assembled by Stephen T. Kerr, Professor of Education, University of Washington, DQ-12, Seattle, WA 98195. All explanatory notes were originally authored by Vasily Davydov, with the exception of those identified by the translator's initials (STK) following the note. The translator wishes to express his appreciation to Professor Michael Cole and Viktor Kaptelevich, University of California at San Diego, for their consultation on the translation of certain technical expressions.

This paper was delivered at the Annual Meeting of the American Educational Research Association in Atlanta, Georgia, April, 1993, as an address invited by Division C and the Committee on International Relations. Vasily Vasil'evich Davydov is currently Vice President of the Russian Academy of Education and a member of the Academy's Presidium. He was for many years the Director of the Research Institute for General and Pedagogical Psychology of the Academy of Pedagogical Sciences of the USSR (predecessor organization to the Russian Academy of Education). A student of Luria and follower of Vygotsky, Davydov's career has not been uniform: during the late 1970s and early 1980s, he was removed from leadership positions within the Academy because of his support for Vygotsky's "cultural-historical" theories and his unwillingness to participate in what he regarded as unscientific and corrupt methods of evaluation and peer review. With the advent of perestroika, Davydov began to push for reform within the Russian educational system, joining forces with a corps of "teacher-innovators" in their push to reorient the Soviet educational system. Along with such reformers as Shalva Amonashvili and Simon Soloveichik, Davydov helped define the movement later known as the "pedagogy of cooperation." In 1987-1988, he worked with the team headed by Eduard Dneprov (later first Minister of Education of Russia in Yeltsin's government) to create a new document on basic education which has continued to serve as the conceptual basis for Russian educational reform. In the newly reorganized Russian Academy of Education, he serves as the rallying point for those seeking fundamental change in the educational system. Davydov has lectured extensively abroad, and is an honorary member of the National Academy of Education in the United States. (STK)

²A number of Vygotsky's works have been translated into English (Vygotsky, 1978, 1987, 1992, 1993; Vygotsky & Luria, 1993). Interpretations of Vygotsky's life and work are found in Kozulin (1990) and Newman and Holzman (1993). His ideas also serve as the basis for an expanding interpretive literature in the West that seeks to extend his insights into new arenas and use them to redefine traditional psychological and educational research. See, for example, Daniels (1993), Lantolf (1994), Moll (1990), Ratner (1991), Van der Veer and Valsiner (1991, 1994a, 1994b), Wertsch (1985a, 1985b), and Zebroski (1994). At the 1994 Annual Meeting of the American Educational Research Association, a new Special Interest Group, the Cultural-Historical SIG, was founded to bring Vygotskian perspectives to the attention of an American audience. (STK)

³The term *vospiatel'i* is related to the Russian term *vospitanie*, which is not an easy one to render in English. It is usually translated as "up-bringing," and that is the approach that has been followed in this article. An alternative might be to use the term *nurture*, which is closer in both origins and connotations to the Russian, but is not a word with which English speakers would feel totally comfortable if it were applied to a school setting. The meaning is roughly all the actions of adults that help to shape the personality and patterns of social interaction of a young person, regardless of where that person is—school, home, clubs, and so forth. Similarly, the Russian *obucheniye*, rendered here as *teaching* or *learning*, refers to all the actions of the teacher in engendering cognitive development and growth. In Davydov's speech, the two terms are often used linked together, showing their essential interrelatedness in the mind of Russian educators. (STK)

⁴This document was produced by the group "VNIK-Shkola," headed by Eduard Dneprov. The original was *Kontseptsia obshchego*

srednego obrazovaniia [A concept of general secondary education] (1988, August 23), *Uchitel'skaia gazeta* [Teachers Gazette], pp. 2-3. For a translation and a discussion in English of the generation of these proposals, see Eklof, B., and Dneprov, E. (1993), *Democracy in the Russian school: The reform movement in education since 1984*, esp. pp. 77-103. (STK)

⁵*Pedology* was a scientific approach that attempted to study the development of the whole child. It was very popular in Soviet Russia in the 1920s-1930s. Many important child psychologists (for example, L. S. Vygotsky, P. P. Blonsky, and others) became pedologists. The pedologists used Western psychodiagnostic tests to determine physiological, psychophysiological, and psychological development of young children. In the mid-1930s, the Communist Party concluded that pedology was a "bourgeois pseudo-science" causing great harm to Soviet education. In a 1936 decree of the Communist Party, it was forbidden to teach or write about pedology. The pedagogical consultancies in schools were closed, and pedologists lost their jobs. In other words, a whole scientific discipline was repressed. When it became possible to write about these things once more in the 1980s, individual scholars began to discuss pedology again. And although, in my view, contemporary child psychology and pedagogy have moved far beyond pedology, we have to objectively examine it and define its place in the history of sciences about childhood.

⁶Under the approach called the *genetic-modeling method*, the researcher builds a model of the knowledge that the learner must master, and the thought activities connected with mastery of this knowledge. Mastery of the knowledge leads to the development of particular activities on the learner's part. In accord with these theoretically based models, a detailed program of experimental instruction is created, several possible variants are considered—and then real instruction is carried out. In such experimental instruction we can trace the conditions for the genesis of concrete thought activities. Related to these thought activities are such things as contentful abstraction and contentful generalization, as well as the activities of analysis, planning, and reflection, all components of theoretical thinking (Davydov, 1988a-e; for a specific example involving a method for teaching children the concept of number, see Davydov, 1990, pp. 360-366).

⁷These new texts are being published by such firms as the Moscow Institute for the Development of Educational Systems (MIROS), Peleng publishers in the city of Tomsk, and Prosveshchenie (Enlightenment) publishers in Moscow.

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(continued from p. 11)

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⁴Gary Orfield, *The Reconstruction of Southern Education: The Schools and the 1964 Civil Rights Act* (New York: John Wiley, 1969), 38.

⁵For an account of events in Chicago, see Orfield, *Reconstruction of Southern Education*, chap. 4.

⁶Orfield, *Reconstruction of Southern Education*, chap. 5.

⁷Frances Fox Piven, "The Great Society as Political Strategy," in Richard A. Cloward and Frances Fox Piven, *The Politics of Turmoil: Poverty, Race, and the Urban Crisis* (New York: Vintage Books, 1975), 271-83.

⁸Thomas Edsall and Mary Edsall, *Chain Reaction: The Impact of Race, Rights, and Taxes on American Politics* (New York: Norton, 1991); E. J. Dionne, Jr., *Why Americans Hate Politics* (New York: Touchstone, 1991).

⁹On this point in relation to policy formation more generally, see Ira Katznelson, "Rethinking the Silences of Social and Economic Policy," *Political Science Quarterly* 101 (1986): 322-73.

¹⁰On these issues, see Harvey Kantor, "Education, Social Reform, and the State: ESEA and Federal Education Policy in the 1960s," *American Journal of Education* 100 (November 1991): 47-83.

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Special Interest Group on Professional Development Schools

The SIG on Professional Development Schools is being formed to provide a forum for university and school professionals to discuss approaches in forming professional development schools, methods of assessing outcomes, and strategies for conducting systemic change research. If interested, contact John Burke, Lisa Campanelli, and Ralph Fessler, Division of Education, 100 Whitehead Hall, Johns Hopkins University, 3400 North Charles, Baltimore, MD 21218; 410-516-8273; E-mail BURKE_JC@JHUV.M.HCF.JHU.EDU