



Please cite the source as:

Martínez, M. (1999). The sociocultural approach at the study of development and education. *Revista Electrónica de Investigación Educativa*, 1 (1). Retrieved month day, year from: <http://redie.uabc.mx/vol1no1/contents-mtzrod.html>

Revista Electrónica de Investigación Educativa

The Sociocultural Focus in the Study of Education and Development

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(Received: June 11, 1999; accepted for publication: September 29, 1999)

Abstract

This work addresses the theoretical and methodological fundamentals of the sociocultural and sociohistorical focus of the higher psychological functions, which come from the propositions of Vygotsky and his collaborators (Luria & Leontiev). This theory of development is distinguished by an emphasis on the social origin of psychological phenomena, and proposes a methodological character which has to do with mediated action as a unit of analysis. Based on this focus it tries to explain the relationships established between learning and development, extending the notions of semiotic mediation and the zone of proximal development, as lines of theoretical reflection which guide the formation of our concepts and the empirical approaches we make in the field of education. The last part of this essay attempts to link such propositions with our educational context, and contains some considerations which may be useful in the orientation of educational practice, as well as in research on psychological development.

Key words: Cognitive development, cognitive processes, semiotic mediation.

Introduction

The objective of this work is to approach the theoretical and methodological fundamentals of a focus which has recently had notable influence on psychology and on the field of education. This, because of its importance, must be included in training programs for psychologists in the fields of education and psychological development. I refer to the sociocultural or sociohistorical focus, as others prefer to call it (Huertas, Rosa & Montero, 1991). This focus of psychological development comes from the research done by Lev Vygotsky and his closest collaborators (Luria & Leontiev), who, basing their work on the fundamental premises of the philosophy of dialectical materialism prevailing in the Soviet Union during the 20's, proposed a new concept of the psychological processes. They proposed these processes as the result of the interaction of the individual with his/her social and cultural environment in a particular moment of history.

Our practice as psychologists in the field of education is clearly and decidedly positioned in a sociocultural perspective. This theory is characterized by the following suppositions: 1) the use of genetic analysis which implies going to the genesis, to the origin of the phenomenon in question, and studying it in its development, not simply as a final product; 2) its emphasis on the social origin of psychological phenomena; 3) the proposition that the higher mental functions and human action are mediated by tools and signs (Wertsch, 1991), among which language is the most outstanding, and 4) a proposal of methodological character which has to do with the unit of analysis of psychological phenomena: the mediated action.

With this focus regarding the psychological processes we seek to explain the complex relationships between learning and development by extending the notion of semiotic mediation toward a greater comprehension of thought and of its relationship with speech, as well as other phenomena implicated in the social life of language. These include "voices," discourse modes, social language and dialogue. Along this line of theoretical reflection we constructed our ideas and developed the actions which guide the empirical approaches we make in the field of education.

Constructivism, a recent line of pedagogical action in education, has found strong backing in the theoretical and methodological fundamentals of this focus because of its emphasis on the notion of appropriation and the social character, active and communicative, of the subjects implied in the construction of knowledge which occurs in the classroom (Coll, 1990).

On the basis of these supposed fundamentals of focus, in a later part of this work I will bring out the aspects which have constituted part of its applications to the field of education, one of the most important situations in which we can study the development of human beings.

For our purposes, and within this line of argument, it is proper to show that while the psychological development had traditionally been conceived as an individual process that occurred in the interior of the subject with an almost total independence from the influence of external factors, this idea has been almost entirely overthrown, fortunately, and today it is difficult that there should still be schools of psychology that deny the powerful influence exercised by social and cultural environment in the formation of the psychological processes. In this sense, education as a powerful social influence cannot be separated from the analysis of external influences which should be contemplated when one approaches the study of psychological development.

From the point of view of the sociocultural focus, the psychological processes are conceived as the result of mutual interaction between the individual and the culture. In this process of development the key to psychological function lies in the construction of meanings, concretely, in the meanings that we attribute to objects, words, and the actions of those about us. Also, individual creation of meanings is considered to be part of an active and social construction which we share with the other members of the social and cultural context in which we develop.

This process of coming to know the meaning of things is generated in the relationships we establish with other social agents, such as in the deliberate intervention of adults in children's learning, and occurs by means of a mediation which is eminently semiotic. In other words, it is in the processes of instruction that interactions come into play –principally linguistic interactions– between adults, children and their companions, and higher psychological functions are generated; from this comes their social and interactive character.

After this brief presentation, I will approach the following points with the intention of developing more deeply:

- a) The genetic domains of psychological function.
- b) The social origins of the psychological processes.
- c) The semiotic mediation of the of the processes.
- d) Action as a principle and as an object of study.

Genetic domains of the psychological functions

Vygotsky affirmed that the genetic study of psychological phenomena implies understanding them from their beginnings and analyzing them by means of the phases or stages of evolution and development –not just observing the final phases and products of development–. Vygotsky was convinced that human psychological processes can be comprehended if, and only if we consider the form and the moment of their participation in the course of development.

For this author, development was the result of lines or forces and their corresponding sets of explanatory principles. He saw development in terms of

fundamental “revolutionary leaps”, more than as “constant quantitative increments” (Wertsch, 1985, p. 37.) As well, he maintained that theories supported by only one set of explanatory factors cannot give an adequate interpretation of the changes observed during development. Such is the case, for example, with focuses that try to explain changes in child development as based on “physiological principles”, or that of others which, resting on the concept of stages of sexual maturation, use that as a foundation for their explanation of how personality develops. His criticisms were directed principally toward biological reductionism and methodological conductivism (developmental theories based on one sole factor).

The problem, according to Vygotsky, was that: “These views do not take into account the reorganization of the very process of development, by virtue of which the importance and the meaning of each one of its characteristics is found in the continuity of transition from one state to another.” Moreover, we should consider that “child development is a highly complex process which cannot be defined in any of its states on the basis of just one of its characteristics” (Vygotsky, 1972, quoted in Wertsch, 1985.).

His strategy consisted in examining as higher psychological functions, such things as attention, memory, thought, etc. These first appear in their elementary form, and later change to higher forms. He believed that lines of natural and cultural development are responsible for this, and argued that it is precisely cultural development which transforms the elementary processes into higher processes.

It is this point of view regarding the study of the development of psychological processes that has produced the concept of domains or genetic dimensions of elementary and higher psychological functions. As well, it serves Vygotsky in distinguishing between elementary and higher functions, and in following their evolution from their phylogenesis, passing through the first manifestations of intelligent conduct in human beings, via the historico-cultural method, till he comes to his study on ontogenesis, which integrates the domains of the different genetic fields.

In the genetic study of the psychological processes, Vygotsky distinguished four domains:

- a) Phylogenetic
- b) Historico-cultural
- c) Ontogenetic
- d) Microgenetic

The phylogenetic domain is centered in the study of the manner in which a specific psychological function emerges in the human species. For example, work with monkeys and chimpanzees in which researchers seek a phylogenetic continuity between biological transformations and the appearance of abilities such as problem-solving or human functions such as speech.

In phylogeny, the principal acting force is the Darwinian principle of natural selection, but *homo sapiens* having once appeared, along with the social organization which characterizes him, the explanatory focus of development changes. According to this author, what brought about the transformation of ape into man were new forms of adaptation to the natural environment. It was work and the consequent use of tools with which they mediated their actions on nature, that favored the emergence of higher psychological functions. Following Engels we may say that work created human beings.

The historico-cultural domain is the study of man, beginning with the use of signs which have been historically developed, and which are employed in cultural contexts. This is precisely the origin of the position we are examining here. While in phylogeny the principal role in explanation is played by the biological processes, in the historico-cultural domain it is played by the appearance of psychological tools: signs. In phylogeny, the acting force is the principle of natural selection; in the cultural dimension the explanatory force rests on the appearance of the instruments of mediation.

When man begins to use signs as means of communication, as a means of establishing links between the material aspects and the symbols he employs to express them or to create them by linguistic means, he changes his whole psychological structure. The act of establishing links between the material symbols of origin and thought, was a landmark in the evolution of *homo sapiens*. The possibility of creating inter- and intralinguistic contexts took him to other levels of development of the psychological functions.

This is what Wertsch means when he refers to the appearance of another principle which he calls “the principle of contextualization and decontextualization.” Starting with the existence of the differences found in the transition of these new men coming from a primitive society, to a society which leaves traces of their cultural activity, of their civilization –that is, that they have gone from one stage of social development to another– it shows that they have been able to generate processes which have permitted them to use instruments of decontextualization, as would be the case in the appropriation of reading and writing or in the processes of education which eventually followed them. This in turn implies that in these men now appear psychological processes of a higher order. Vygotsky and Luria set out to prove this in the research they directed among the peasants of Uzbekistan in the thirties.

However, as Wertsch (1985) points out, the preceding has not been clearly substantiated. In fact, the studies done by Vygotsky and Luria were centered on the analysis of the decontextualization of the mediation instruments and the type of cognitive operations employed by the peasants of that era and of that region to solve problems, syllogisms and other questions related to attention, memory, and logical thought. Their findings were not confirmed by new research carried out within the framework of transcultural psychology (i.e. the work done by Scribner &

Cole, 1981). According to Wertsch, the results of this later research indicate that “it is not possible to establish a sole dichotomy between literate, educated subjects capable of using decontextualized mediation instruments and advanced forms of higher psychological function on the one hand, and subjects with none of these characteristics on the other. These relationships are more complex” (Wertsch, 1985, p. 56.).

The ontogenetic plane is related to studies about the evolution of the processes of a particular individual, and of the developmental forces which affect him –that is, the natural and cultural lines–.

The ontogenetic dimension is distinguished by the operation of more than one developmental force, and the competition between them, that is to say, it lies between the natural and cultural lines. While in the former domain the developmental course of the psychological processes is closely linked to the historical development of society, on an ontogenetic plane, the explanation is oriented toward the intersection of the natural and cultural lines, as well as the difference between the higher and elementary psychological functions.

Vygotsky, sorting out the biological and cultural reductionist explanations, argued that these forces were joined together in a process of "emerging interaction" between the natural and the social. In fact, he paid little attention to the course of natural development –just enough to introduce the debate over the sociocultural factors, according to Wertsch (1985)–.

The major part of the research which has given birth to a broad, systematized body of knowledge on child psychology is found in the dimension of ontogenesis, and the explanations it offers vary from a biologist-type point of view to a sociologist type. Vygotsky and his coworkers focused especially on the study of psychological phenomena from the ontogenetic domain. As previously mentioned (Cubero & Santamaría, 1992), studies of this type analyze the genesis and the transformation of a process in a specific individual.

The last of these domains is the microgenetic, which although it was sketched by Vygotsky, was later developed by his followers (Wertsch, 1985) to complete the vision of these domains. It has to do with the study of the formation of psychological processes in settings characteristic of experimental psychological procedures. Microgenetic analysis is centered on the detailed study of learning and developmental processes during very short periods of time. It constitutes a very important source of data for the comprehension of these processes. As well, the microgenetic domain refers to the formation process of a psychological function in a concrete, limited context of time and space.

The majority of work done in the area of education is located on these two last planes. I will speak about them in the last part of this text. Finally, we should remember that the concepts we have been discussing constitute the theoretical basis for the studies carried out, and are what orients and justifies them, that is: the

social nature of the cognitive processes; its semiotically-mediated character and its emphasis on genetic analysis.

Now I will go on to give a brief review of the other previously-mentioned hypotheses.

The social origins of the psychological processes

About the social origins of the psychological processes, Vygotsky asserted that social consciousness came before individual consciousness, which is secondary and derived from the former. The key to this theory is found in the "historicity of the nature of the human psyche," which makes us ask how this social history is acquired, that is, these products of the development of previous generations.

Human beings, more than adapting themselves to phenomena, appropriate them or make them their own. This distinction is important, and we should analyze the difference between adaptation and appropriation. While adaptation means a passive acceptance of the environmental conditions affecting the organism, appropriation implies a different sort of operation: it is an active, social and communicative process. Thus, appropriation is the means and the principal process through which the psyche develops.

Speaking of the social origin of the psychological processes implies that all these psychological processes are formed in, and go through a social phase which comes from the activity the subject establishes with objects and in contact with other individuals. This is what led Vygotsky to formulate his "genetic law of cultural development", which says that:

In the child's cultural development, any function appears twice, or on two planes. First it appears on the social plane, and later, on the individual plane; first between personas (interpsychological) and later within the child (intrapsychological). This may be equally applied to voluntary attention, to logical memory and to the formation of concepts. All the higher functions originate as relationships between human beings (Vygotsky, 1979, p. 94).

The preceding suggests that the psychological processes may be attributed as much to groups as to individuals, and that there is an inseparable link between the planes of interpsychological and intrapsychological function. These processes are first observed on the social plane, and exist as such (collective memory, shared attention, public opinion, etc.) and later on they are learned, or interiorized by the subject.

This process called internalization or interiorization is seen as the "reconstruction" of an interpsychological operation within an intrapsychological operation; however, these operations should not be understood as a simple copy of the social processes established. The same internalization implies transformations and changes in the structures and in the functions internalized. This process is not automatic; it implies a series of gradual transformations over a period of time.

In distinguishing the relationship between the psychic and the social Vygotsky isolates the division running between the internal and the external and approaches it in its dialectic interrelationship. The processes which produce the psychological functions are explained in terms of a transition from an interpsychological function to an intrapsychological function, and is expressed as the fundamental mechanism of semiotic mediation –that is, the internalization of signs and instruments that have been culturally defined, among which language plays the leading role–.

We find this social origin on two planes or levels: a micro level and a macro level. To illustrate the preceding we might say that on the first plane we would find the face-to-face interactions which arise in family and pedagogical interactions as a sort of microcosm. On the second level, we would find the influences of social institutions like education –in particular, formalized scholastic education–. These two contexts well exemplify the two levels on which we will place the greater part of our discourse and argument.

The upper mental functions are, by definition, culturally mediated. The artifacts which compose the material cultural inheritance with which we are in contact from the time of our birth not only serves to facilitate the mental processes, but also molds and transforms them. The psychological functions start out and remain culturally, historically, and institutionally situated, and are specific to the context. In this sense, there is no way of being culturally non-situated when we carry out an action (Cole & Wertsch, 1996). These authors state that the superior mental functions are transactions which include the biological individual, the mediational cultural artifacts, and the culturally structured natural and social environment, of which all of us as individuals are a part. This means that the social processes give place to the individual processes and that both are mediated by these artifacts.

In the following sections we will continue talking about the social origin of these psychological processes, especially in the contexts of family and education. We should, however, remember that the emphasis is on cultural mediation –on the mediation of human action by cultural artifacts, such as language, which play a central role in the explanation of human development as seen from this focus (Cole & Wertsch, 1996)–.

Semiotic mediation of the psychological processes: signs

Vygotsky (1979), in speaking of the formation of the superior mental functions, stated that this was a process derived from the interiorization of a very specific type

of instruments: signs, which he compared with the acquisition of tools in the same sense in which Engels refers to them as the elements which engender a change in man's social nature by changing the way he relates to the natural environment. Thus, in the same way that tools allow man to transform his physical environment, psychological tools –signs– have permitted man to relate with his social surroundings in a very different way.

Signs are acquired by means of a complex historical, social and cultural process; in the interaction between adults and children, between the generations of old and young people, and between equals of greater and lesser development, and come to be converted into the instruments of thought, of communication. For this same reason, we find them in the social space generated in interaction; they first occur on an interpersonal plane and later, on an intrapersonal plane.

In regard to the preceding, Vygotsky said:

The creation and utilization of signs as an auxiliary method for solving a specific psychological problem (remembering, comparing something, telling things, choosing, etc.) is a process analogous to the creation and utilization of instruments in reference to the psychological aspect. The sign acts as an instrument of psychological activity, just as a tool does in work (Vygotsky, 1979, p. 88).

The author adds that one need not wait to find similarities between the use of instruments and the use of these means of adaptation we call signs. Just as tools mediate between man and his physical surroundings by acting as a prosthesis, signs mediate between the individual and his social surroundings by acting as extensions. But in this case, their function is to regulate people's conduct and minds. They are the means by which the individual's internal and external environment are modified, and they affect the formation of the conscience.

Among the different types of signs it is language which becomes the fundamental mediating instrument of psychological action. Language mediates the relationship between oneself and others. It has a social nature, a communicative function, and it regulates the relationship we establish with persons and objects.

So great is the importance conceded to semiotic mediation of the psychological processes that it enters into the very concept of the nature of development: qualitative leaps responsible for psychological development are associated with the appearance of new forms of semiotic mediation, whether through the use of new signs, or through the use of more advanced signs (Cubero & Santamaría, 1992).

The meaning of signs is the fruit of a historico-social process. They are found neither in the object nor in the individual; they are the result of a process of negotiation –that is, of a process in which the meaning is "negotiated" between the participants–. The individual comes to appropriate them through a process of "interiorization" which we have already mentioned. It consists in the internal reconstruction of an external operation (Vygotsky, 1979). This author explains it by

referring to how a child's actions are converted into functions which later will be expressed in language. For example, between the act of grasping and the indicative function, one may distinguish three moments in its development:

- a) An operation which initially represents an external activity is reconstructed and begins to take place internally;
- b) an interpersonal process is transformed into another which is intrapersonal;
- c) the transformation of an interpersonal process into an intrapersonal process is the result of a long series of evolutionary processes (Vygotsky, 1979; pp. 93-94).

The foregoing shows us how actions are transformed into semiotically-mediated conscious acts. This occurs when the child discovers the indicative and symbolic functions of language; when he discovers that everything has a name and that these names are used to designate objects. This stage corresponds to an increment in his vocabulary which allows him to begin to interact with adults about the meaning of the things that fill his world. At that moment he finds himself at the gateway to a new stage in which, through the use of language, he can begin to appropriate the meaning of words in a more precise way, and he can make use of them to tell the things that happen to him and that impress him, and the things he desires. He can also address himself freely to the persons with whom he wishes to speak about these things.

Human beings not only appropriate words, but also from the historical and social experiences that are the bases of their cultural context, on interiorizing them, they reproduce them. This process of appropriation is the way of acceding to the social technical knowledge constructed by different cultural groups. Appropriation is active, social and communicative (Cubero & Santamaría, 1992). These processes do not take place in a vacuum, but are generated in the social and communicative contexts that have been conceptualized as intersubjective spaces (Bruner, 1991; 1995), in which are generated conversations and other interactions that produce the transition from an interpsychological function to an intrapsychological function (Wertsch, 1985). Let us consider, for example, the moment when the child points to an object without yet knowing how to refer to it verbally. The first thing that appears is the indicative movement or gesture toward the location of the object, which is interpreted by the mother as the child's desire for the object, producing by this the subsequent interaction. The mother labels the actions verbally, and the child afterward learns to repeat them. In this case, there has been created a space of intersubjectivity where the actions and communications that have been established are those producing the higher order psychological processes, which could not have been produced without the direct support of adult intervention.

Action as a principle and as an object of study

If we review the history of the objects of study that have prevailed over the years in psychology, we will find that these have been led by sensations in associationism, by the figure and background from the Gestalt, the subconscious in

psychoanalysis, conduct for the "behaviorists", the cognitive processes for the cognitivists, and so on and so forth.

Vygotsky, in his search for the most appropriate unit of analysis for the study of psychological development, initially proposed the meaning of the word, since it already contains and reflects the basic properties of the group from which it starts out. However, later studies by his followers lead them to propose activity as the unit of analysis, not just as a "theoretical abstraction of the entire human universal practice", but as an explanatory principle and as the initial form of all types of human activity.

According to this focus, the essence of man's activity can be discovered in the process of the "analysis of the content of interrelated concepts such as work, social organization, universality, freedom, conscience, the statement of an objective whose bearer is the generic subject" (Davidov, 1988). Basing myself on this author (Davidov, 1988, and in texts by Leontiev, 1984, and Wertsch, 1985), I will try to give the reader a brief version of the theory of activity.

The original psychological theory of action proposed by Vygotsky was later developed by Leontiev (1984), and constitutes, in essence, his personal concept of the psyche as a product derived from the development of external physical life which in the course of historico-social development is transformed into internal activity –activity of the conscience–. In this theory, the basic task is researching the structure of activity and its interiorization.

From this point of view, the real explanation of conscience lies in the study of the social conditions and procedures of action which generate the need for a conscience –in other words, the work activity of individuals–. In work activity the objectivation of the image that motivates and regulates any activity of the subject has its place; but for this to be so, the object should appear to man as "having reproduced the psychological content of the activity."

The initial and basic activity is the external, practical, sensorial objective, which is derived from the internal psychic activity of the individual conscience. The activity is determined by the kinds of production of life conditions. It is constituted by its orientation toward the object, and toward the properties and relationships which define it.

The object of the activity presents itself to us in two ways: first in its real and independent existence, which captures the subject's attention; and later, as the image of the object, as a psychic reflection of its property which is formed as a result of the subject's activity. So, we may ask: *what is it that directs the activity of the subject? The object first, and then the image of it, as a subjective product of the activity which carries with it the objective content.* The image, in essence, constitutes the result of the proof of existence of the object. The image, in a way, absorbs the system of objective relationships and circumstantial properties in which the object is immersed (Davidov, 1988).

The activity of the subject begins with a need, from a lack of the object on the individual's part. But for that, an essential condition is that the object have had, and that it still have its own existence in the exterior reality. Starting from this act, there are generated certain actions that obey specific motives, which in their turn, are linked with the aims of the activity itself. In this sense, the activity is action with a goal. If the activity loses its motive, it can be transformed into action, and this, if its aim is modified, can become operation.

One of Leontiev's principal theses states that the objective determination of activity is possible thanks to a special quality which it has: universal plasticity, the ability to take on the properties, relationships and connections of the objective world (Davidov, 1988).

The acts through which we designate these aspects constitute the content of linguistic meaning. Behind the meanings are hidden the socially-formed procedures of actino—in other words, the operations in this theory—in the process of which, people know and modify objective reality. In the meanings is represented the ideal form of the existence of the objective world and its properties, connections and relationships, opened to view by common social practice (Leontiev, 1984).

The principal problem is how to explain the interiorization of this practical activity which, in the beginning is social and then goes on to be appropriated by the individual. If we carefully examine the type of activity we will see that this is characterized by a structure and by a dynamic that adopts different types and forms, etc. But the most important thing is that *it does not exist outside the social relationships we establish with other people.*

What is important to remember here is that the concept of activity is linked with the certainty of its objective character: "that to which the act is addressed (...), in other words, as something with which the living being has a relationship—with the object of his activity, be this external or internal—." So, from this point of view the subject interacts actively and truly with the object; he seeks it and tries it and he "finds" it in a partial and selective manner (Davidov, 1988, p.28).

In summary, the psychological structure of activity is constituted by the need of the subject to reach this object in order to fill the lack of it; this; which becomes the motive, and then the aim of the activity. The unity of the aim and the conditions for reaching it come to make up the task. In this pattern the following transformations take place: activity → action → operation and motive → aim → conditions.

This is not the time to enter into an argument over some of the aspects mentioned in the development of the theory of activity, which have not yet been adequately explained, so we will only point out that with the passing of time its followers have come to modify some points of view and have come to propose action directed toward goals and mediated by instruments as the unit of analysis (Zichenko, 1985).

In action directed toward goals and mediated by instruments the psychological functions and the relationships existing among them are reflected. Signs and meanings are expressed, and we find other semiotic manifestations. Moreover, action directed toward goals implies an individual in communication with other agents of his environment. In other words, in it are reflected types of behavior that are organized and defined in a cultural manner, according to the patterns accepted in the social group to which he belongs. These are acquired through the interaction maintained by its members.

In this context we believe that for a theory to be considered complete, it should take into account the agents, their actions directed toward goals with certain definite purposes, the setting in which these actions are developed and the goals that motivate them, as well as the instruments they use for communication. In our cultural context we find settings such as school, work environments and the community in general that favor their study in an overall way.

The school is distinguished by favoring among its members forms of thought that have been accepted by a cultural group, so constituted in one of the principal institutions which presents new forms of confronting problems by means of the development of common cultural artifacts.

Moreover, in the school context the activity of study is generated; this, like that of play and work activity (all productive in one or another sense) gives clear examples of the subject's integrated activity in all its forms and types, in its mutual passages and transformations.

Specific links with education

The cultural focus is, from its genesis, very closely linked with the educational environment since the latter permits the acquisition of abstract forms of thought through the use of mediational instruments such as language, a mediating instrument *par excellence* for the psychological functions, having primordial responsibility for changes in the cognitive processes. As well, using language, one may create contexts and generate the presence of objects or their representations in a contextualized and decontextualized manner; this has made it an object of study by different researchers (Wertsch, 1985; 1989; 1991; Karmiloff-Smith, 1979). It is important to emphasize that in language lies the key to the structure and the function of human activity. Toward language, precisely, the labors the labors of Vygotsky were oriented when he approached the development of social, egocentric and internal speech.

In the West, and in these times (here and now) there are being carried out a good number of studies related to educational settings and the activities performed in them, with the goal of putting into practice the ideas of Vygotsky and the socio-

cultural focus at all educational levels (Moll, 1990; Ramirez Garrido, 1996; Alvarez, 1997).

In our country today we have come to observe a strong tendency in the educational environment to open up to new theoretical and methodological perspectives that permit the exploration of new procedures contemplating interactions between teachers and students in the teacher/learner relationships they establish.

From the perspective we have contemplated here, there have been noted some of the conceptual and empirical elements I believe to be of great usefulness for teachers in their work. One of these is the concept of the social origin of the psychological processes that does away with the traditional idea which considers such processes to be produced by the subject's individual development. Another of these elements is the active, communicative character of learners' appropriation of these processes, which undermines the idea of passivity that has characterized pedagogical practices in our context. From a developmental perspective, this was seen as a process of individual maturation –a view that leads us to do nothing, while simply waiting for the child to reach the expected age in which learning and other cognitive processes will appear, and that minimizes or even ignores the role of the teacher or adult in the developmental process–.

From the perspective of the sociohistorical and sociocultural focus, Vygotsky introduced a most important concept to explain the differences between the child's real level of development and his potential level of development. I mean the concept of the zone of proximal development (ZPD), which has been very useful for explaining the differences in learning and intellectual development among individuals who, being of the same chronological age, show knowledge and abilities superior to those of their companions.

In the demarcation of this zone one may note the interaction of two of the genetic planes in which Vygotsky locates his argument: the ontogenetic domain and the sociohistorical plane. This zone is that point where culture and cognition interact and are mutually created (Cole, 1985) –in other words, where the social and cultural processes that function at school, and the cognitive development of the subject meet–.

This idea has its origin in Vygotsky's argument concerning the relevance of learning to development, and the differences existing between the most important psychological positions of the day regarding their explanation. Vygotsky divides these into three types: 1) the type which holds that the processes are independent; 2) the type which asserts that learning is development, and 3) the type which states that the two processes are mutually dependent and interactive.

1) In the first view, learning is considered to be a purely external process which has no active relationship with development; it simply uses the advances of development in place of providing an incentive for modifying the course of it.

Experimental research on thought in school-age children begins with the supposition that in processes like deduction and comprehension, ideas spring up by themselves without the influence of external, social mediations, as would be the case in scholastic learning. For example some research arising from the Genetic Theory with its "clinical conversations" illustrates this approach. Since this tendency is based on the premise that learning always follows along after development, and that development advances more rapidly than learning, it excludes the idea that learning can play a role in the course of the development of psychological functions.

Development is equated with maturation and is considered as a condition preceding learning, but never as a result of it. In sum, learning constitutes a superstructure built on development, leaving the latter essentially unaltered. In fact, one of the most outstanding results of the research carried out by the Geneva School shows that an individual's learning capacity depends on the level of cognitive development. Therefore, the possibility of a student's being able to accomplish a specific learning task depends on his level of cognitive development.

2) The second position, which maintains that learning is development, groups together theories of very diverse origin, among which we find the theory of reflex. According to this position, development is considered as the accumulation and mastery of conditioned reflexes, so that, "the process of learning is completely and indissolubly linked with the process of development".

This theory has something in common with the genetic theory: it sees development as the formation and substitution of innate answers. Development is reduced to the accumulation of all the answers and reflexes possible (Vygotsky, 1979).

3) The third position is based on the work done by representatives of the Gestalt school, and states that development depends on the maturation of the nervous system and of learning. In this sense, the latter is seen as an evolutionary process and so, the two processes are perceived as mutually dependent and interactive.

This interactionist posture originates from the discussion between Thorndike and the Gestalt school represented in Koffka regarding whether training in specific areas affects the totality of development if its elements and processes are similar in the different fields (a posture which the former defend, while for those of the Gestalt school, the influence of learning never is specific). These authors maintained that learning cannot be reduced to the formation of aptitudes; instead, it entails an intellectual disposition that makes it possible for the general principles discovered on accomplishing a task, to be transferred to a series of different tasks.

On the other hand, for Vygotsky (1979) development and learning are closely related from the child's first days of life. In order to describe these relationships he states that it is necessary to outline the levels of development: the real which is

established as a result of evolutionary cycles, and the potential. The difference between these two levels is what he calls the zone of proximal development.

The distance between the real level of development, determined by the ability to solve a problem independently, and the level of potential development, determined by solving a problem while guided by an adult or in collaboration with a more capable companion (p. 133).

According to Vygotsky himself, this zone include functions which have not yet matured, but which are in process of maturation. In this sense, the level of real development represents mental development retrospectively, while the zone of proximal development represents mental development prospectively. This zone:

(...) permits us to trace the immediate future of the child, as well as its dynamic evolutionary status, showing not only what has been evolutionally completed, but also that which is in process of maturation (Vygotsky, 1979, p. 134).

So the notion of ZPD, unlike the three points of view mentioned earlier regarding the learning/development relationship, helps Vygotsky to present a new formula that surpasses the previous ones. This new formula states that "good learning" is simply that which precedes development, that the evolutionary processes do not necessarily coincide with the learning processes, and that on the contrary, "the evolutionary process follows after the learning process; this sequence is what is converted into the zone of proximal development".

Wertsch (1985) remarks that when a child is involved with an adult in an instructional process, it does not necessarily imply that his level of potential development must be superior. Moreover, the child may operate "only within certain limits fixed by the child's state of development and by his intellectual possibilities." Starting from this point, Wertsch points out: "The zone of proximal development is determined jointly by the child's level of development and the implied manner of instruction; it is neither a property of the child nor of the interpsychological function alone." (Wertsch, 1985, p. 87).

The concept of ZPD may be clarified by virtue of other concepts such as definition of the situation and reference, both located within the framework of intersubjectivity. These concepts help us to understand how the interaction between an individual who knows, and another who does not know (or one expert and the other less expert), favors the interiorization of actions as well as the transference of knowledge. At the same time these concepts require others such as recognition, semiotic mediation and referential perspective which can be of great help in understanding the mechanisms by which this transference of the interpersonal to the intrapersonal is produced in the zone of development.

Finally, an aspect important to mention is that all these processes to which we have alluded are of a social and communicative nature, and that these, in particular, are the most important characteristics of the relationships we observe in

schools. It is precisely in these interactions that the psychological processes and functions which give place to individual and social development are formed. Because of this, the emphasis of research should tend toward the explanation of the influence of social and educational processes on the development of higher psychological functions. This should be done through studies focused on explaining the processes of the appropriation of the meaning of words and actions, which as we have pointed out, have an active, social and communicative character.

Conclusions

Based on what I have been presenting up to here, there are some considerations and conclusions that may be derived, and that, slanted in the right way, can be of great interest and usefulness in educational practice. One of these is the orientation of research toward psychological development and the sociogenetic processes implied in it.

First, I would begin by pointing out the social origin of knowledge and of the processes that make up the higher-order psychological functions, as well as the importance attributed to the mediation of adults in the appropriation by minors of these psychological processes which we have presented as interactive and primarily social. As we see it, the influence of adults is undoubtedly powerful. A child could not learn anything from memory if he did not observe the strategies an adult follows in learning a text or a list of items, etc. In this way, we can determine that a minor appropriates processes such as memorization or solving a problem, when he sees how an adult does it. We can verify this as much from an ontogenetic point of view as from a historico-cultural one, particularly if we remember that we "see" ourselves in the activity other human beings are doing.

Second, development should be seen as going beyond the present moment, in a prospective sense. Here it is important to remember Vygotsky's statement that the only good teaching is that which precedes development. As well, it is worthwhile to underline the importance of seeing development and learning as closely linked in a prospective vision, which can facilitate a clearly interactive attitude between teachers and students. In this sense, the teacher should be conscious that much of what his students learn, they learn in interaction with their classmates, and not only through direct contact with objects. From this stems the importance of mediational (semiotic) intervention by adults or by partners with more training. Consider, for example, a situation where a child is allowed to come into contact with an object, let us say a musical instrument, and see if he is able to obtain from it a coherent sequence of notes. Instead, let us put him in contact with an adult who can explain to him the language of the musical symbols and the movements necessary for managing the instrument, and in a short while we will see a clear interchange of actions that will lead him to learning (playing the instrument) and to the development of new abilities and knowledge.

From this perspective, there is a change in the conception of the roles traditionally attributed to teachers and students in a school context. The former may be seen as coordinators who help in the creation of support systems (in the sense of scaffolding) and reconstruct the space of the development zones between what the students know at that moment and what they can master tomorrow.

One last thing it seems important to me to point out, is that in these reciprocal instructional spaces there are also created atmospheres which, when one knows how to take advantage of them, function as learning communities in which new knowledge is constructed and higher level psychological functions are developed through the arrival of other points of view and opinions of unquestionable value and sociocultural origin. In this field it is possible also to promote the application of some new methodology (constructivist, ethnographic) derived from explanatory principles offered by disciplines such as cultural anthropology, which through the evidence they provide have proved their usefulness in the study of the sociogenetic processes for the explanation of psychological development.

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