A.V. ZAPOROZHETS (1905–1981): CONTRIBUTIONS TO THE FOUNDATION OF EDUCATIONAL PSYCHOLOGY

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This article aims to describe the preparatory analysis of academic heritage and scientific studies left by the eminent researcher in the psychological theory of activity A.V. Zaporozhets. It reviews the resurgence, systematization, organization, and discussion of the most important aspects of his thoughts and his intellectual production in the field of pedagogical psychology. The text is associated with the investigations, that Grupo de Estudos e Pesquisas em Didática Desenvolvimental e Profissionalização Docente – GEPEDI (english: Group of Studies and Research in Developmental Didactics and Teacher Professionalism) has been doing for already seven years, on the problems related to the psychological theory of human development in the cultural-historical perspective and the conditions of education and teaching necessary for this development. The work of this research group received the support from FAPEMIG, CNPq and CAPES.

Keywords: A.V. Zaporozhets, educational psychology, historical-cultural approach

A.V. Zaporozhets (1905–1981), even though he was one of the foremost followers of L.S. Vygotsky, remains practically unknown in the West, especially in Brazil, where only a few years ago his work and his thoughts became a object of systematic study in the field of psychology and education.

The theoretical contributions of A.V. Zaporozhets are in two specific areas of psychology:

a) the developmental and age psychology;

b) the psychology of education. In the field of developmental and age psychology he made fundamental contributions in some areas almost forgotten in recent research of children, such as, the forming processes of perception, sensations, emotions, and, especially, the movement or voluntary actions.

A.V. Zaporozhets, along with his colleagues and disciples, created the theory of sensory and mental development of children. He promoted the importance of resolving the problems of formation and education of pre-school children. He also introduced the concept of pre-school pedagogy with the prospect of enriching the child's development by the intermediate use of specific activities within the age group. Zaporozhets defended the idea of extending the period of early school stage to seven years, considering that the childhood extension was the greatest achievement of human civilization.

These studies in the developmental psychology for the above-mentioned ages were the fundamental focus of scientific interests of A.V. Zaporozhets whose research proved to be extensive, original, and creative. His writings in this area were especially helpful for the systematization, improvement, expansion, consolidation, and exposure of the main psychological theses at first in the Kharkov group and later in the Institute of Psychology of Moscow State University.

Through experimental studies, A.V. Zaporozhets confirmed empirically two of the most important theses of L.S. Vygotsky. First, that the domination of social experience of a child does not happen independently, but with help of adults during the communication process with people that surround him/her. Second, that the domain of this social experience is not given through passive perception, but in an active way through diverse activities, such as play, study, and work. The extensive work on the study of the Vygotsky theory and the creation of the educational system based on this theory was done later by LV. Zankov and his collaborators [2].

A.V. Zaporozhets and his team of collaborators, T.V. Endovitskaya, Ya.Z. Neverovich, G.H. Kislyuk, A.N. Poddiakov, S.M. Kozlovsky, O.V. Ovchinnikova, and L.S. Tsvetkova among others found, starting from these ideas, that the orientation reaction is a functional component, which is necessary for any type of adaptive activity. They concluded that voluntary movements of a man are conscious movements that are acquired throughout the life. This acquisition needs a psychological direction through the guidance of executing activity. This guidance is given through a certain model that determines "what" and "how" to do certain movements. However, this is not enough, because the anticipatory orientation alone will lead to neither the formation of a habit nor the elaboration of the system of relations, which is at its base. The anticipatory orientation should be followed by a series of additional exercises for training the developed habit. At first, the image is formed, then – the entire system.

Important studies of the orientation activity of hands and eyes were conducted by A.V. Zaporozhets team and especially by V.P. Zinchenko. These studies allowed them to determine steps by passing the conditions of an activity orientation task:

a) chaotic – the elements of a situation that have indicated a meaning, yet without identification, for the orientation of reactions to produce both, the essential conditions as not essential for this action;

b) the beginning of the formation of the system of active irritants in the verbal influence and specific examples, moves the character to an investigative activity, the orientation reacts in the direction that the irritants focuses on the experimental situation and in the words and actions of the experimenter, and takes place initially as a system of touch-driven orientation reactions;

c) verbal communication activation – when the child is able to verbally express the identified situation characteristics during the orientation process or during the demonstration actions and it helps to increase the effectiveness of teaching and makes it more conscious and widespread;

d) internalization of verbal activity and reduction of mobilizing engine components in a system of orientation-in a formation stage of the image that supports the further action that anticipates the results and the movements that take place [6, p. 93–100].

From the point of view of pedagogical psychology, A.V. Zaporozhets established that the didactic organization of the processes of assimilation of school students by social experience should be built on the basis of new research, especially, on the laws of such psychology processes. These laws need to be reputed during the selection of content, the organization of study programs and the structuring of new teaching methods. According to Zaporozhets, building the socialist society depended, in part, on the establishment of a strong public education system and, in this case, pedagogy was able to set the bases for a new pedagogical theory and a new organization of didactic processes and teaching.

A.V. Zaporozhets states: "It should be considered that any system for directing the assimilation processes is constructed on the base of certain psychological conception about the nature of driving processes. Before facing the formalization of the process of assimilation, it is indispensable to understand what proposed model is suitable for this term. Otherwise, the formalization of this type ends up with the danger of false consolidated methodological positions and can deepen the weaknesses of old teaching methods. This way, programs should examine the psychological nature of the assimilation process to solve some problems of methodology and teaching" [1, p. 301].

The biggest concern of A.V. Zaporozhets, in relation to the new didactic organization of teaching-learning processes, is focused on the content and teaching methods. He realized that the chosen type of a psychological concept determined the type and the nature of the content and methods. Based on the theories of L.S. Vygotsky and A.N. Leontiev about human learning, which require the character to make a formation of entirely new abilities, the product of children's assimilation of generalized operations that are transmitted by adults [3], A.V. Zaporozhets proved importance of the contents during the structuring of study programs, as well as teaching methods through the process of their assimilation. As a part of the content, he highlighted importance of knowledge or empirical information, and skills and capabilities. In the field of methods, he gave prominence to more general mechanisms of the acquisition of new knowledge, skills and capabilities, especially to the formation method of mental actions and concepts created by P.Ya. Galperin in 1950–1970s. A.V. Zaporozhets specifically devoted himself to the study of the formation of perceptual actions, sensitive and voluntary movements [7; 8; 9; 10]. Regarding importance of the contents and methods, A.V. Zaporozhets wrote: "During the design of the programs, it is indispensable to take into consideration not only the gradually complexity of empirical material, but, at first, teaching of the widespread action procedures with this material developed by the humanity. However, this way, it is only noted that the content should be assimilated; the process of this assimilation, for its part, is subordinated to specific laws in the correspondence with which teaching methods should be structured... Formation to the action stages, that leads to their conversion of the external (materials) and the internal (ideal), constitutes the fundamental content of the assimilation process; the proper organization of the external object activity of a student, which ensures such a transformation, is the fundamental principle because it should be guided towards the rational direction of the study process" [1, p. 302].

The research of A.V. Zaporozhets showed that internal psychic processes compose internal ideal (mental) actions, from the reflection of external actions and materials that take their

final form as a result of successive transformations and abbreviations. He researched the fundamental role of the guiding part in the implementation and training of the action and came to the conclusion that the acquisition process of knowledge and skills by a child is conditioned by the proper organization of object-action that responds to the demands of a task. In these actions, he distinguished two steps:

a) the orientation step (which also provides the control) and;

b) the execution step. During the first step, a child, who learns, needs models to explain or the guidance what to do and how to do it.

During the second step, that child needs to perform actions on the object's conditions (handling the concrete objects). In this regard A.V. Zaporozhets said: "The knowledge is formed as a result of actions on the objects. The same actions done in the same form become capabilities, and if they become automatic, they are habits. That explains why the organization and formation of the actions on objects constitute the central process of the acquisition of new knowledge, skills and habits" [1, p. 304].

A.V. Zaporozhets and his collaborators, L.A. Venger, A.G. Ruzskaya, Ya.Z. Neverovich, and V.P. Zinchenko, experimentally confirmed that the sensorial development of the child – hearing, touch, vision etc. – do not simply drill in the organs with senses during the adapting of analyzers to these conditions that present the perceived reality, but lead to the path of the assimilation of social sensory experience, sensory culture. This assimilation of social sensory experience does not occur passively but actively, by perceptual specific actions that bring to the formation of images to the object.

However, it was in the field of pre-school education, where A.V. Zaporozhets concentrated the most of his investigations. His research, conducted in collaboration with L.A. Venger, A.N. Poddiakov, Ya.Z. Neverovich, confirmed that pre-school children subjected to educational experiments, whose focus was placed on the formation of intellectual processes on the basis of practical actions with the objects and the previous orientations of the characteristics of observed phenomena, could produce general reflections of themselves and establish certain connections and interactions, even when thinking continues operating at the level of visual images. For this reason, it creates the basis of representations that contain the premises of scientific concepts that will be formed later in the following evolutionary steps. This process is only possible under the influence of school and the proper pedagogical orientation by a teacher. Similar studies also confirmed that children of pre-school have the ability to assimilate basic principles of math and reading from their teachers via new teaching methods. A.V. Zaporozhets mentions [4] research undertaken on children's preparation for the school learning at Preschool Education Institute and says: "It is important that the use of new teaching methods not only allows children to elaborate on, at early stages of their evolutionary development, a certain set of basic skills of reading and mathematics, but also to develop its extensive orientation in the language of qualitative relations while the indispensable basis for the aftermost formation of their language and mathematical skills is being placed" [4, p. 231–232].

Beyond the capabilities previously indicated, under the basis of these pedagogical conditions of education and teaching, are formed the skills related to affection, such as social motives of the behaviour, moral and aesthetic feelings. Zaporozhets research on the origin, structure and function of the emotions were pioneering in the psychological theory of activity and they still make a large effect on the didactic field [5].

According to the ideas of A.V. Zaporozhets, pre-school education from the point of view of specific aspects that characterize the psychic development of a child should take the role and function of the establishment of necessary premises for those global restructuring of children's awareness that define the course of evolutionary development and that will take place later at the elementary school. These assumptions are established as he wrote by the way of performing the functional development processes, in which partial changes that occur during the formation of some isolated actions, generate new knowledge, procedures and skills.

A.V. Zaporozhets carried out the studies proving that the pre-school age gives the characteristics of the prevailing psyche of children, and that the type of learning cannot allow the passage to the next level of evolutionary development, related to new structures of the thought and new general schemes. According to A.V. Zaporozhets, "it is unlikely that the conceptual scheme guiding the mentioned forms can exist in the context of the game activity or practise an activity specific to preschool. Apparently, it is essential for the formation to conduct the school study activity such that, by the results of D.B. Elkonin and V.V. Davydov

research, present a more complex content than the activity of preschool, because it is characterized by the procedures, tasks and peculiar reasons" [4, p. 235–236].

These conclusions, if taken into consideration, could help to avoid mistakes made at schools in regards to the determination of teaching content and the methods of pedagogical orientation of the psychological potential of a student. The content and teaching methods need to be determined by the psychological age of a child, the type of main activity it carries out and the place and role in the context of a specific type of social relations. They should be taught and guided based on these principles.

Conclusion

It needs to be said that the extensive and rich work of one of the most important theorists of child psychology in the second generation of Russian cultural-historical psychologists is very important for the developmental education. It is fundamental not only for its historical value, but also for its strength and effectiveness that still remain today. Zaporozhets works can help to deal with the scientific and methodological problems that school and education pose to researchers, teachers, school managers and family, in relation to the psychological development of students and their pedagogical orientation.

Without direct access to published works of A.V. Zaporozhets it is not possible to scale the magnitude of his thoughts and to use them in an appropriate manner. This is why most of the time of this study was related to the localization, organization, classification and systematization of more than 200 works of A.V. Zaporozhets published originally in Russian.

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