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The contribution of Zaporozhets to the analysis of child development in preschool age[1]

Contribuições de Zaporozhets para a compreensão do desenvolvimento psíquico na idade pré-escolar

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ABSTRACT
The article presents the results of a theoretical investigation that explores Zaporozhets' contributions to the understanding of psychic development in preschool age, seeking to extract implications from the historical-cultural analysis of child development for pedagogical action. The author's main propositions regarding the development of perception, emotional processes and motor development in the preschool period are systematized. In line with the literature, the study carried out allows us to identify that the unit that articulates Zaporozhets' analysis of the partial processes of the preschool psyche is the *action* and the development of mechanisms for its voluntary control by the child. We also highlight the pedagogical principle of *amplification*, which points to the need to enrich typical preschool activities in order to promote the development of psychic neoformations specific to this age period, without forcing the emergence of capabilities typical of later periods.

Keywords: Preschool age; Cultural-historical psychology; Zaporozhets; Child development; Early childhood education.

RESUMO
O artigo reporta pesquisa de natureza teórico-conceitual que explora contribuições de Zaporozhets para a compreensão do desenvolvimento psíquico na idade pré-escolar, buscando extrair implicações da análise histórico-cultural do desenvolvimento da criança para a ação pedagógica. Sistematizam-se proposições do autor referentes ao desenvolvimento da percepção, dos processos emocionais e do desenvolvimento motor no período pré-escolar. Em consonância com a literatura, o estudo realizado permite identificar que as análises de Zaporozhets sobre os processos parciais do psiquismo pré-escolar articulam-se em torno da *ação* e do desenvolvimento de mecanismos para seu controle voluntário por parte da criança. O manuscrito ressalta, também, o princípio pedagógico da *amplificação*, que aponta para a necessidade de se enriquecer as atividades tipicamente pré-escolares de modo a promover o desenvolvimento de neoformações psíquicas específicas desse período etário, sem forçar a emergência de capacidades próprias de períodos posteriores.

Palavras-chave: Idade pré-escolar; Psicologia histórico-cultural; Zaporozhets; Desenvolvimento infantil; Educação Infantil.

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1 Introduction

This article reports on theoretical research that was guided by the main objective of developing and deepening the understanding of the process of child psychological development in the preschool age, aiming to derive implications from the cultural-historical analysis of neoformations during this period for pedagogical action.

The issue of the relationship between child psychological development and educational processes has been the subject of investigation by researchers affiliated with Vygotsky's School since its early stages in the first decades of the 20th century, continuing up to the present day. The remarkable integration of this perspective into the Brazilian context has been increasing since the mid-1980s, coinciding with the dissemination of Vygotsky's ideas in Brazil (PRESTES, 2012). However, it is worth noting that the adoption of the works of some authors from this School is still quite limited, mainly due to the lack of translations into Portuguese for the most second and third-generation authors. Considering this gap, the author under focus in this study is Zaporozhets, given the significance of his contributions to the understanding of child psychological development within the cultural-historical tradition.

According to Puentes (2015), together with Leontiev and Luria, with whom he worked for many years, Zaporozhets was one of the first and most important disciples of Vygotsky. His research has been published and disseminated in English and Spanish timidly for over sixty years, but the author "remains practically unknown to this day in almost all of the Americas, especially in Brazil."[3]

The researcher Aleksander Vladimirovich Zaporozhets (1905-1981) is Ukrainian, and prior to venturing into the field of psychology, he was a theatre director, and S. Eisenstein was one of his mentors. He became a student and disciple of Lev Vygotsky from the mid-1920s, and since then, his trajectory has

[3] In the survey conducted by Puentes (2015), 76 titles authored by Zaporozhets were identified, in which 30 of them were in Russian, 18 in Spanish, and 30 in English.

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been linked to the theoretical and methodological principles of the Vygotsky School (ZINCHENKO; VERESOV, 2002). He eventually became a "notable scientist and one of the greatest experts in child psychology in the former Soviet Union" (PUENTES, 2015, p.178).

According to Shuare (1990), Zaporozhets began his career in the field of psychology by working as a laboratory assistant and soon became an assistant of the Chair of Psychology at the N. K. Krupskaia Academy of Communist Education, which was then directed by Luria. In the 1930s, he collaborated closely with Leontiev, becoming part of the Kharkov School group and eventually the director of the Chair of Psychology at the Kharkov Pedagogical Institute (SHUARE, 1990). He held this position until the beginning of the Second World War when he became involved in the rehabilitation work for wounded soldiers (VERAKSA, 2014).

After the war, Zaporozhets coordinated the Laboratory of Preschool Children's Psychology at the Institute of Psychology at the Pedagogical Sciences Academy of the USSR. In 1960, he was appointed the first director of the Institute of Preschool Education at the Pedagogical Sciences Academy in Moscow, a position he held for 20 years until his death. According to Brodova and Leong (2005), the researcher played a fundamental role in implementing Vygotsky's ideas in the field of preschool education in the Soviet Union. His pedagogical ideas are embodied in the Program of Teaching and Training in Kindergarten[4], developed under his guidance.

Zaporozhets' work is based on the cultural-historical thesis that specifically human psychological qualities do not stem from biological maturation processes or an individual child's experiences. Instead, they arise from the social experience embedded in the material and spiritual cultural products that a child appropriates throughout childhood. This implies understanding the social environment not merely as an external condition or a mere influence but as a bearer of human psychological content and, therefore, a source of psychological development (ZINCHENKO, VERESOV, 2002).

[4] *Program for Instruction and Training in Kindergarten.*

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According to Puentes (2015), "studies within developmental psychology, especially those related to ages, were the fundamental focus of A. V. Zaporozhets' scientific interests, in which his work managed to be more extensive, original, and creative." The researcher analysed aspects that were less explored in the research of his time, such as "the processes of perception formation, sensations, emotions, and, above all, voluntary movements or actions." This article specifically focuses on the author's contribution to the understanding of these processes: sensory-perceptual, emotional, and motor development in the preschool age.

To carry out this study, works published in English in the Journal of Russian and East European Psychology were selected. These works specifically address the formation of psychological processes in preschool age, as shown in Table 1. The texts serve as intricate syntheses of a series of investigations conducted by Zaporozhets and his group of collaborators regarding sensory-perceptual, emotional, and motor development in the preschool age.

Table 1 – Selected texts

Title in English	*Toward the question of the genesis, function, and structure of emotional processes in the child*	*The development of sensations and perceptions in early and preschool childhood*	*A psychological study of the development of motor activity in the preschool-age child*
Translation of title in Portuguese	Sobre a questão da gênese, função e estrutura dos processos emocionais na criança	O desenvolvimento das sensações e percepções na primeira infância e idade pré-escolar	Estudo psicológico do desenvolvimento da atividade motora na criança pré-escolar
Year of publication of the English version.	2002	2002	1977
General information	Article translated into English by Valentina Zaitseva from the original	Article translated into English by Valentina Zaitseva from the original	Article published in volume 15 of the journal – then called *Soviet*

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	Russian text, published in 1986, in a collection organised by V. V. Davydova and V. P. Zinchenko entitled *Zaporozhets: izbrannye trudy*.	Russian text, published in 1986, in a collection organised by V. V. Davydova and V. P. Zinchenko entitled *Zaporozhets: izbrannye trudy*.	*Psychology and Psychiatry*.

Source: Author

The methodological approach of the research started by collecting **historical and biographical information** to support the material selection and contextualisation of the research corpus, the results of which are summarised in this introduction. Subsequently, an **exploratory reading** of the selected texts was carried out to obtain a preliminary overview of the author's propositions regarding the study object: the understanding of the psychological development process in preschool children from a cultural-historical perspective. The next stage involved a **systematic reading** of the selected works, including the identification, ordering, and recording of the main concepts and theses formulated by the author. Finally, there was an effort towards an **integrative synthesis of the results**[5], built upon the correlation and articulation between the main propositions of the studied texts, with a view to extracting implications of Zaporozhets' ideas for educational action with preschool children.

2 Presentation of Results: Characterisation of Psychological Development in Preschool Age

The presentation of the results will be conducted in the following four topics: a) emotional processes in preschool age; b) perception development in preschool age; c) motor development in preschool age; d) main findings and pedagogical implications.

[5] The methodological design of the research was based on the discussion of Lima and Mioto (2007) regarding bibliographic research.

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2.1 Emotional Processes in Preschool Age

Zaporozhets (2002b) addressed the issue of children developing emotions and feelings focusing on investigating the emergence of emotions in their relationship with the child's practical social interactions with their environment.

The dependence of emotions on the nature of the subject's activity, their regulatory role in activities and the role of acquiring social experience accumulated by previous generations as a determinant of human emotional development processes are well-established premises by researchers in cultural-historical psychology such as Vygotsky, Leontiev, and Rubinstein. Zaporozhets aimed to contribute to the advancement in the study of emotions within the context of developmental psychology. In collaboration with other researchers, he focused on investigating emotional processes in early childhood and preschool age.

Focusing on the relationship between emotional processes and the child's activity – considered in its content and structure, Zaporozhets (2002b) and his collaborators were also interested in the connection between the development of emotional processes and the child's mastery of certain values and social demands/expectations, in other words, how the child acquires moral norms and rules of behaviour.

Zaporozhets (2002c) posited that the function of emotional processes undergoes substantial changes in connection with shifts in the (general) nature of the child's activity and the specifics of their motivation. Considering this, he emphasised that emotions express the content of the child's motives for behaviour, and more importantly, they play a fundamental role in stating these motives.

The author asserts that emotion constitutes a special form of reality reflection used by individuals to regulate the psyche of their activity through a process he coined **emotional correction of behaviour**. This process is characterised by the effort to align the overall direction and dynamics of behaviour with the context of the situation and the actions the subject produces

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to satisfy needs and interests to fulfill their value orientations. In preschool age, the possibility of **anticipatory** emotional correction was introduced for the first time. Let's explore how this novel formation occurs.

During the transition from early childhood to preschool age, embryonic forms of productive activity emerge as the child attempts to accomplish things that are useful and necessary not only for themselves but also for other children and adults around them. Consequently, there is a corresponding shift in the processes that regulate activity, primarily concerning the **content of emotions**: forms of co-experience and empathy for others whose needs the child's actions are directed towards begin to emerge. Secondly, as the complexity of activity increases, which implies in a longer distance between the starting point and the final results, the role of emotions in the **temporal structure of activity** changes: they start to anticipate the course of a given task.

Initially, emotional correction of behaviour occurs in a rather imperfect and delayed manner: after receiving/perceiving a negative response from peers or the adult educator, the child tends to redirect their behaviour, particularly in cases where the outcome of the action significantly differs from what was expected. The emotional reactions of others in response to the child's actions are, therefore, crucial in the early stages: only if inappropriate actions (e.g., aggressive acts) have already produced negative consequences and the child has received a negative social sanction from the adult or the group of children, can appropriate emotional experiences emerge in the child.

In the early stages, affect appears post-factum as a positive or negative emotional evaluation of a directly perceived situation resulting from actions. Subsequently, emotions can emerge prior to carrying out an action, as emotional anticipation of the possible consequences and the imaginary situation that may arise when/if the action is completed. This implies that as emotional processes gradually progress, the possibility of anticipatory emotional correction of behaviour is engendered.

Anticipation plays a crucial regulatory role in playing and productive

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activities that begin to take shape in preschool age, given their complex structure and motivation. To engage in such activities, the child needs not only to imagine or foresee the results of the action but also the meaning/impact that such actions will have on themselves and on other people.

To illustrate this, we cite the experiment conducted by Zaporozhets (2002c, p.59) in partnership with Neverovich, which is of special interest in understanding the relationship between emotional imagination and emotional regulation of activity. This is an investigation conducted with a group of preschool children (between 4 and 6 years old), who were asked to tidy up and organise the classroom. Four experimental sessions were carried out. In the first two sessions, the task was requested and performed by the children monotonously and unenthusiastically, and the task was quickly abandoned; In the third session, the children were asked to tidy the room for the younger children, who did not yet know how to do this.

By introducing this social motivation, the children's behaviour changed a great deal, significantly increasing the effectiveness of their actions, especially among 5- and 6-year-olds. Nevertheless, several children would actively start the task but easily become distracted, make mistakes, and not complete the assignment. In the fourth experimental session, an attempt was made to visually simulate the sense of the situation that aimed to be produced by completing the task through a verbal and visually expressive description of how comfortable and pleasant the room would become for the younger children to use if the older ones organised it properly. At the same time, a negative scenario of the consequences of not properly fulfilling the task was hypothesised using verbal and visual means (disorder in the room, small children crying, arguments, difficulty finding toys, etc.).

This experimental procedure aimed to combine introducing social motivation for the activity and creating emotional anticipation of the results, organising the internal psychological activity of the children, i.e., guiding the emotional imagination activity. In this session, an improvement in the overall performance of the children was observed, leading to the conclusion that the

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formation of emotional anticipation processes contributes to mobilising the child's physical and 'spiritual' forces, increasing their level of activity directed toward a specific goal.

To summarise his findings, and drawing on Vygotskian postulates regarding the issue of emotions, Zaporozhets (2002c) formulates the following thesis concerning the development of emotional processes and their regulatory role in childhood activity: emotional anticipation forms as a result of the internal activity of investigative guidance, which, in turn, is shaped based on the practical interaction of the child with the surrounding reality.

Through internal mental activity, the child interacts (mentally) with problematic situations by mentally transforming a given situation, allowing them to discover positive or negative values initially hidden in both the circumstances and the actions that can be taken under such circumstances. When mentally confronting significant problems, the child experiences various action variations and understands the meaning their consequences can have for the people around them and themselves (as a social being). This provides the child with the opportunity to establish a guiding principle for their subsequent behaviour, avoiding misguided actions that do not correspond to their needs and values. These actions could be easily carried out under the influence of fleeting desires and casual circumstances if their results were not previously imagined and emotionally experienced.

Similar to any other form of internal ideal activity, this **emotional imagination** is initially formed as a result of practical material activity in which the child engages in real interactions with reality, especially with people. Zaporozhets (2002c) argues that the moral experience acquired this way is the fundamental source of children's feelings, and only this experience can add true content and real motivating force to their emotional anticipations.

This achievement presupposes the integration between affective and cognitive processes. In this process, emotions become intellectualised, generalised, and anticipatory. Cognitive processes, in turn, have an affective

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colour and begin to play a special role in discrimination and meaning formation. In the course of this internal, notably affective-cognitive activity, the child engages in imaginary actions and experiences various variations of interaction with the environment on an ideal plane. Through this, they have the opportunity not only to predict but also to experience the meaning of a given situation and the actions, as well as their potential consequences.

By characterising the development of emotional processes in preschool age, Zaporozhets revealed important elements for understanding the qualitative change that marks this age in terms of overcoming the determination of conduct by the perceived situation: the child develops the ability to engage in actions without depending on what is immediately sensed, but guided by ideas and meanings that are constituted in their psyche.

It is worth noting that the profound changes in the sphere of the child's affective needs that occur during the transition from early childhood to the preschool age can be explained by the emergence of a strong focus towards the fundamental senses of human activity, well-described by D. B. Elkonin (1987): characteristic of the new developmental period is the assimilation of motives, objectives, and norms of interpersonal relationships. As a result of a new social motivation for activity, children gradually develop more complex forms of anticipatory emotional regulation of behaviour.

2.2 Perception development in preschool age

Zaporozhets (2002a) emphasises the scientific importance of studying sensory-perceptual development in childhood, considering that the ontogenesis of the sensorial system creates the necessary prerequisites for the emergence of thinking, perfection of practical activity, and the formation of a child's ability. The author discusses general issues related to sensory development in early childhood and preschool age, fundamentally based on the results of research conducted at the Institute of Preschool Education and the Institute of Psychology of the APS (Pedagogical Sciences Academy) in the Soviet Union, in close collaboration with other researchers, especially A. P. Unova and N. P. Sakulina.

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One initial postulate advocated by the author in this discussion concerns the very nature of sensory and perceptual processes, marking the qualitative difference between the development of sensorial systems in animals and in humans: "the ontogenesis of human perception is profoundly unique, for it is not adaptation that plays a decisive role in it, but rather the **acquisition of social sensory experience** accumulated by previous generations" (p.23, emphasis added).

The essence of social sensory experience relates to the mastery and fix in language of the systems of properties of surrounding objects, allowing them to be reproduced by an individual in various forms of human activity. The author cites the system of musical sounds, the system of speech sounds, the system of colours, and the system of objects to illustrate this proposition. In the process of appropriating these perceptual systems, the child acquires not only specifically human content but an exclusively **human structure of perceiving reality**, of a historical and cultural nature. This structure is established as the child assimilates symbolic patterns and learns to use them to examine perceived objects.

A second postulate supported by Zaporozhets (2002a) concerns the relationship between sensory development and human activity. In his analysis, the development of sensory processes depends on activities through which the child acquires the products of material and human spiritual culture, creating conditions for the emergence of a higher sensory system.

Establishing the importance of the practical and active acquisition of social experience for the child's sensory development enables a new approach to the problem of the periodisation of this development—not centred solely on the maturation of organic systems. It is a fact that "the maturation of analytic systems creates certain contingencies or potential for the emergence of a higher-level sensorial system, [but] the realisation of this potential and actual transition from one stage to another are necessarily connected with essential changes in the nature of the child's activity" (Zaporozhets, 2002a, p.24). These changes are directly or indirectly brought about by the progressively more complex demands

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that adults place on children as their physical and mental abilities expand. In summary, the development of sensorial systems is a result of the transition to more complex forms of social activity.

During the first years of life, sensorial systems are significantly developed, involving qualitative changes in the content and structure of these psychological processes. While early childhood is characterised by predominantly fragmented forms of perception, capturing and reproducing only some guiding characteristics of the object, in the preschool age, the child progresses to more advanced forms of perception that reproduce the entirety of the properties of the perceived objects, encompassing all their connections and interrelations.

Experimental studies conducted by Zaporozhets' collaborators have led to establishing a relationship between the qualitative change in the predominant form of perception and changes in the child's activity. The transition to more complex forms of perception is clearly related to the shift between elementary activities where the child uses existing objects (typical of early childhood) and productive activities in which the child seeks to create new objects (emerging in the preschool age).

Reflecting on this observation, Zaporozhets (2002a) emphasised that changes in the child's sensorial system should not be studied in isolation from the development of all aspects of their personality but as particular and subordinate aspects of global changes in the child's mode of interaction with their environment and in the development of their activity.

Zaporozhets (2002a) advocated that sensory processes should be conceived as a form of investigative-guiding action within various forms of activity. This involves the reproduction and modelling of the properties of perceived objects, allowing for the formation of the (sensory) image of that object. This means that sensory and **perceptual processes** are conceptualised by the author as perceptual actions. Such characterisation appears to be a fruitful approach for bridging the Vygotskian analysis of developing higher mental functions and the analysis of the macrostructure of human activity conducted by A. Leontiev.

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Zaporozhets (2002a) highlighted that the **formation of perceptual actions** in children constitutes a highly complex process that spans the entire preschool period. The research conducted by the author and his collaborators allows identifies three moments in the process of forming perceptual actions:

a) In younger preschoolers, the absence or insufficiency of separation between guidance and carrying out actions is observed. In this stage, the movements of grasping and other practical manipulation motor movements play an important role in familiarising children with objects. The image formed as a result of this familiarisation is fragmented, generally reflecting isolated individual properties of an object that are important for a specific practical activity.

b) In the intermediate period of preschool age, visual and tactile methods of object familiarization begin to differentiate, and separation occurs between the guiding part of the action and its executing part. However, familiarisation still focuses on the most prominent details without completely examining the object as a whole.

c) At the end of the preschool age, visual and tactile examination methods take on a more systematic nature, making it possible to grasp not only individual details but also the object as a whole, including the specific system of relationships between its interrelated parts. The sensory images formed based on this way (or method) of familiarisation with objects acquire a more appropriate character and a more differentiated nature, serving as a guiding foundation for complex productive activities.

It is worth noting that such systematisation is based on results from two types of experiments: investigations that observed and recorded the formation of perceptual actions in preschoolers (using cameras to capture hand and eye movement and obtain a more detailed characterisation of these actions) and formative experiments designed based on specific hypotheses about the formation of perceptual actions.

As an illustrative example, we can mention a series of experiments described by Zaporozhets and conducted by Boguslavskaia, which

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investigated the visual perception of concrete objects and geometric shapes in preschoolers. In the first phase of the experiment, the objects were displayed and then described to the children. All children aged 3 to 5, and some older children, limited their examination to a fleeting inspection of the displayed objects. They were able to recognise the object by one or two of its typical characteristics but were unable to reproduce the object through drawing or *decoupage*. In the following phase, the children were guided to simulate the shapes of the perceived objects by representing their forms with strips of paper, rods, etc. This means that the children's activity was being organised in a specific way: they received special explanations on how representing the shape of objects could help them become familiar with them and then draw them more accurately. Under such conditions, Zaporozhets clarifies that the models the children created were not an end in themselves, i.e., they were not the final product of the activity but a means to solve certain cognitive and practical tasks. After these exercises, the effectiveness of perceptual processes significantly increased in all children, as observed, for example, by a notable improvement in the accuracy of graphic representation without any specific drawing instructions taking place.

What stands out from the research findings reported by the author is that the methods of examining objects used by children undergo substantial changes throughout the preschool age, leading to alterations in the formation of sensory images of perceived objects. This involves a process of **transforming material actions into perceptual actions**, guiding the child to a stage of purely visual orientation, focusing on the essential attributes of the object: "This is the stage at which the highest form of internalisation of the perceptual process is reached – when an internal model is finally formed – a constant and orthoscopic perceptual image of the perceived object" (ZAPOROZHETS, 2002a, p.32).

Zaporozhets emphasises that the determination of this process is the acquisition of social sensory experience, which involves the child acquiring commonly accepted **sensory patterns** in a given social context. These patterns will act as mediators in the formation of the perceptual image of objects.

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As a consequence of the findings reported in the analysed text, Zaporozhets (2002a) reaffirms the importance, in early childhood education, of using models that function as perceptual tools—as a condition for the development of the child's sensory analysis ability. In his assessment, this practice seems to impact not only the sensory development of the child but also the intellectual aspect of their psyche. Initially, it should involve practical action using material mediators. The conclusions drawn by P. Ia. Galperin regarding the staged process of the formation of mental actions, as well as Vygotsky's analysis of internalisation theory process, appear to underpin Zaporozhets' propositions.

In the formative experiments that delve into the sensory-perceptual development of children as reported by the author, the principle of joint action between educator/researcher and child becomes evident. This collaboration is seen as a condition for the formation of the child's capacity for independent action.

2.3 Motor Development in the Preschool Age

In the preschool stage, motor activity undergoes a decisive level of complexity. The child acquires a series of motor skills that will be of great importance for their future life, and their movements become more coordinated: they learn to carry them out consciously and deliberately. Zaporozhets (1977) argues that preschool education should create conditions for the child to learn to guide their movements and guide them consciously, directing them according to their will.

This proposition implies that the children's Physical Education teaching methods cannot be solely based on the anatomical and physiological study of bodily development but also on the study of **psychological aspects of children's motor activity.** Therefore, it is crucial to understand: "How does a child develop voluntary, deliberate movements, and what are the principal changes that take place in this development in the preschool period?" (ZAPOROZHETS, 1977, p. 61).

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Similar to his approach to the issue of sensory-perceptual development, Zaporozhets (1977) emphasises, from the outset, that there is a qualitative difference between the development of movements in an animal and a young child: "While the motor activity of an animal is linked basically to the functioning of subcortical mechanisms, in children it develops in coordination with cortical activity and under the dominant influence of faculties such as vision" (p. 60). Transitions from one level to another in motor development depend on the adaptation to new tasks that the child encounters as they live and grow.

> In contrast to an animal, a child consciously learns new forms of movement. Their motor activity does not develop in isolation but within a broader context of the development of their overall activity and according to the problems they have to deal with and the motives that drive them to act. As the child develops, not only do their motor skills change, but also the way in which they acquire these skills changes (p. 61, emphasis added).

Thus, the author emphasises the role of consciousness in the process of child motor development. The conscious nature of learning new bodily actions and operations, in his analysis, is precisely what marks the specifically human quality of bodily activity. Zaporozhets' (1977) discussion of motor development situates it as a particular dimension within the broader context of the child's overall development and complexification of activity. This involves addressing the issue of the motives that drive the child to engage in bodily action.

Moving to a detailed examination of the problem of acquiring new motor actions and operations in preschool age, Zaporozhets (1977) emphasises that elementary motor skills can be learned by the child in the context of play and practical activities in a non-deliberate manner. However, the acquisition of more complex forms of motor skills—necessary for study, sports, work, and artistic activities—requires **conscious effort.**

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The researcher explains that in early childhood, learning new movements and their practical use comprise a single and unified process, meaning these dimensions are inseparably linked. In the preschool period, however, a separation between these aspects begins to occur, creating a new possibility for the child: the learning and refinement of new movements can occur independently of their practical use. This reflects a change in the child's relationship with their bodily movements.

The qualitative change in children's motor activity that occurs in the transition to the preschool age—the subject of investigation by Zaporozhets and his collaborators—is expressed both in terms of the effectiveness of the movement and in terms of the structure of the movement to be performed. An important developmental achievement is incorporating a **movement preparation phase** into the structure of action, which was absent at an earlier age. This observation was obtained through formative experiments that investigated the formation of the ability to jump, and it seems to highlight the possibility of intentionally planning and organising the action to be performed, a capacity that solidifies in the psyche during the preschool age.

During this developmental period, the child also acquires a new way of mastering movements: **automated movements** that were previously ends in themselves in child activity. Zaporozhets (1977) seemed to indicate that the conversion of actions into operations consolidates as a fundamental mechanism in the genesis of new motor skills from the preschool age onwards.

Thus, it is within the structure of the activity conceptualised by Leontiev that Zaporozhets finds the foundation and framework for analysing the issue of child motor development. The fundamental thesis advocated by Zaporozhets in this study is that the performance and motor development of children depend on the nature of the task they have to deal with and the motives behind their activity.

To support this thesis, the author presents the results of various experimental studies that focused on preschool children's formation of new movements in different situations—such as within the context of play and practical situations.

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The conclusions obtained support the cultural-historical thesis that states, "(...) at each stage of individual mental development, processes and acts are not formed in isolation but as part of a dominant type of activity" (ZAPOROZHETS, 1977, p.67). They demonstrate that the development of preschool children's motor activity occurs, to a considerable extent, within the context of play. The motives of play serve as strong incentives for the child to perform certain movements, thereby creating specific conditions for the development and transformation of preschool children's motor activity.

In play situations directly aimed at mastering movement, the expressive aspects of carrying them out are especially significant for the child. This is why Zaporozhets reaffirms the importance of gymnastic exercises that involve performing actions typical of a character (for example, walking with the precise stride of a Red Army soldier, jumping like a rabbit, pecking at wood like a woodpecker, etc.). We consider that such a proposition is grounded in the understanding that the playful role serves as a sign mediating the child's relationship with their own bodily action.

However, it is important to note that play does not stimulate all types and aspects of motor activity equally; some are accentuated, while others assume secondary importance. Although play is an essential role in learning the general nature of movement, its influence is not as significant in the development of other aspects of motor activity.

Therefore, the mere fact that a particular movement is included in a play situation is not always sufficient to support the formation and development of motor action. Zaporozhets and his collaborators drew conclusions about the influence of play on the execution of movements, indicating that it is necessary to consider the role played by the sequence of movements in the context of the entire play situation: whether the bodily action in question is a central aspect of the role being played or a subordinate aspect or merely a "technical detail." The author compares different conditions, for example, the act of jumping when playing the role of an athlete and the movement of hammering when playing the role of a

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carpenter: jumping may take a central conceptual place in the play activity that focuses on athletics[6], while hammering is just an operation that can be diluted in the symbolic representation of the work activity.

A highly relevant finding from the studies reported by Zaporozhets (1977) pertains to the initial formation of new motor acts: "What is this psychological situation that enables the child for the first time to master new and higher forms of motor acts in the preschool period?" (p. 70). According to the author, if the preschool child can find favorable conditions for consolidating voluntary mastery of motor actions within the context of play, the genesis of new motor acts is more effective in situations involving direct instruction from adults. This means that the initial formation of new motor acts does not predominantly occur in either play or practical situations; its primary source is learning through direct instruction—learning that occurs through the direct demonstration of a new movement and the request to perform a specific movement within a well-organised situation.

As Zaporozhets explained, up until the preschool age, play, practical activity, and learning are still relatively undifferentiated activities: as the child faces a practical problem, they also learn, thereby acquiring a series of motor skills. In the preschool period, the correlation between these aspects becomes much more complex: new and more complex forms of motor skills can no longer evolve merely through accommodation to task conditions. The studies conducted by the researcher and his collaborators revealed that "at this stage, the child must first have a conscious apprehension of the motor act, learn how to perform it, and then use it for practical purposes" (p. 70-71).

In summary, Zaporozhets (1977) concludes that new motor skills fundamentally form in learning situations involving direct instruction and

[6] In the experiment in question, the children were asked to play the role of a famous jumper who could jump farther and better than anyone else. The experimenter solemnly explained to the audience (the children sitting around the "stadium" in chairs) that the famous athlete would now attempt a record-breaking jump, placing two lines on the ground to mark the distance. The renowned athlete entered the stadium, performed the jump, and the audience applauded warmly with cheers of approval.

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need to undergo a period of practice and refinement in play before they can be appropriately used by the child in practical activity. His data shows that preschool children achieve their best performance in a situation where they have to perform an objectively defined task assigned by an adult; later, this motor act can be carried out in a play situation with a relatively high degree of effectiveness, while the efficiency of using this motor skill in a practical situation is lower throughout the entire preschool period.

3. Main conclusions and pedagogical implications

We consider that the research conducted by Zaporozhets and his collaborators makes a significant contribution to the understanding of child psychology. Simultaneously, it elucidates the development of specific aspects and highlights their interrelation with the entirety of psychological processes undergoing transformation in this period. Based on the theoretical-conceptual foundation of cultural-historical psychology, the findings of the author and his group gradually enable a more precise characterisation of the preschool psyche in its process of development (state and becoming). This allows for decoding the determinants that bring about changes in partial psychological processes as part of a broader process of restructuring the psyche as a whole.

The *action* seems to operate as a unit that articulates Zaporozhets' research findings related to motor and sensorimotor development. His studies on motor action indicate the need to overcome the conception of action and movement as mere bodily locomotion (and of its organs) in space, proposing their examination as a **complex motor action** that performs a specific and integral activity of the subject in relation to the object, reality, and others. Perception is also understood by the researcher as **perceptual action**, formed as a result of the appropriation and mastery of socially generalised sensory qualities fixed in perceived objects, highlighting its mediated nature. Emotions, in turn, are examined in their regulatory role in children's activity, which contributes significantly to the formation of voluntary conduct.

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To sum up, the study conducted leads us to conclude that the unit articulating Zaporozhets' analysis of partial processes in preschool psyche is *action* and the development of mechanisms for its voluntary control is carried out by the child. It is in the course of activity that motor, emotional, and perceptual processes become more complex and are requalified towards self-control of conduct.

This conclusion supports the analysis of Zichenko and Veresov (2002), stating that Zaporozhets' investigative work focused on human *action*, more specifically *voluntary action*, within the theoretical-methodological framework of activity theory. In this framework, the concept of action refers to a process directed towards specific *goals*, guided by the *motive* of the activity, and carried out through operations (LEONTIEV, 1982). From this perspective, the authors emphasise that Zaporozhets understands the process of cultural appropriation as the **acquisition of new actions**. This concept not only relates to the operational aspect of individual development but also encompasses the personality and human existence more broadly, leading to a genuine enrichment of the individual (ZINCHENKO; VERESOV, 2002).

It is worth noting, however, that when identifying activity as a decisive source for the formation of higher psychological processes, Zaporozhets does not refer to the spontaneous activity of the child but fundamentally to social activity mediated by the demands of social practice and guided by the adult educator.

In his analysis of motor development, the importance of adult instruction for the genesis of new skills becomes particularly evident. This highlights the need for proposing specific activities within the realm of body culture where the teacher can use direct instruction and models to promote the formation of new motor skills. At the same time, the importance of using playful roles or creating playful situations as a resource for refining new movements is revealed, reaffirming the significance of role-playing as a dominant activity during this period that must necessarily be present in preschool education.

Furthermore, concerning children's emotional development, the author rejects naturalistic conceptions and demonstrates the importance of

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external mediation as conditions for the child's internalisation of mediating signs that will bring about qualitative changes in affective processes towards their humanisation.

As a pedagogical implication, this analysis of emotional processes, firstly, shows the understanding that emotions and feelings should be the object of educational intervention in the school context, refuting dichotomous views that attribute to teaching the role of impacting the cognitive dimension of children's psyche. By highlighting the integration between emotional and cognitive processes as a characteristic achievement of the preschool age and the shift in the place occupied by emotion in the structure of children's activity, Zaporozhets provides clues about the type of mediation necessary to be provided by preschool education to foster the child's emotional-affective development.

Regarding the development of sensory and perceptual processes, it is noteworthy that their characterisation as perceptual action opens up the possibility of understanding the necessary conditions for the development of this psychological capacity in light of the analysis of the activity structure. As a pedagogical implication, one can conclude that, as action is a process directed toward a goal, the activities proposed for children in preschool should require the child's psyche to have voluntary and conscious control over the process of perception as a condition for carrying out the activity itself. In other words, perceptual action should occupy such a place in the structure of the child's activity that its successful implementation is a necessary condition for achieving the entire activity.

Aiming to summarise Zaporozhets' contributions in terms of the implications of cultural-historical psychology for pedagogical praxis in early childhood education, which is the ultimate goal of this study, we understand that intentionally creating conditions for the formation of new actions in children with an essential trait of voluntariness can serve as the axis of the pedagogical process in early childhood education. This process articulates work with content from different areas of knowledge through various types of

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activities (play, productive, physical, etc.) and marks the specificity of pedagogical work in this segment. Therefore, the role of the teacher as a professional who organises children's activities considering their full development of human capacities is essential.

4 Final considerations

Concluding the presentation of Zaporozhets' ideas and propositions that contribute to the understanding of psychological development in the preschool age in this article, we would like to emphasise that the explored contents should be contextualised within the author's broader conception of the importance of the preschool years for a child's formation.

Bodrova and Leong (2005) recall Zaporozhets' argument that the preschool years should not be considered merely as preparation for school but as a period of development that has a value of its own, making a unique contribution to the overall human development process. In his perspective, specific cognitive, social, and emotional achievements during the preschool years are part of the systemic process of psychological development and cannot be "replaced" later on. Building on Vygotsky's postulates, the researcher advanced in understanding the benefits of rich and productive experiences during the preschool years for psychological development, as well as the risks associated with shortening this period of life.

The pedagogical implications of Zaporozhets' psychological investigations can be summarised in the concept of **amplification** (Bodrova, Leong, 2005; Shuare, 1990; Zinchenko, Veresov, 2002). This concept refers to the perspective of enriching the psyche and personality through a specially organised system of instruction and training that takes into account the child's potential to master different types of knowledge and skills at each stage of development.

This concept relies on the emphasis given by the researcher to the unique quality of each stage of development, which has qualitative

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peculiarities and lasting value. Therefore, each stage provides unique and irreplaceable opportunities for the formation of psychological processes (SHUARE, 1990).

The principle of amplification opposes a perspective of accelerating children's psychological development, which Zaporozhets considers potentially harmful. This concept reflects the idea that pedagogical work should promote the development of new psychological formations specific to a particular age period, rather than forcing the emergence of capacities typical of later periods. Therefore, there is a need to enrich activities typically associated with the preschool years, ensuring that children's psyche can be mobilised to function at the higher levels of the zone of proximal development.

In the analysis made by Bodrova and Leong (2005), Zaporozhets' propositions indicate a productive trajectory for addressing the dichotomy—or divergence—that can be found in the contemporary literature on early childhood education. This dichotomy is between approaches that advocate for the child's free and spontaneous development as a guide for pedagogical work and those who believe in the early and anticipatory formation of academic skills in the preschool context. Zaporozhets' theoretical-practical propositions suggest that we need to ensure, within the context of early childhood education, the space and time for protagonised play (the guiding activity of the preschool period), as well as productive and creative activities. Thus, it will be possible to amplify the psychological development of the preschool age while establishing the foundations for future capabilities that will be important in the context of elementary school.

Contribuciones de Zaporozhets sobre el desarrollo del niño en la edad preescolar

RESUMEN
El artículo relata una investigación de carácter teórico-conceptual que explora los aportes de Zaporozhets a la comprensión del desarrollo psíquico en la edad preescolar, buscando extraer implicaciones del análisis histórico-cultural del desarrollo infantil para la acción pedagógica. Se sistematizan las propuestas del autor respecto al desarrollo de la percepción, los procesos emocionales y el desarrollo motor en el período preescolar. En línea con la literatura, el

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estudio realizado permite identificar que la unidad que articula el análisis de Zaporozhets de los procesos parciales de la psique preescolar es la acción y desarrollo de mecanismos para su control voluntario por parte del niño. Destacamos también el principio pedagógico de amplificación, que apunta a la necesidad de enriquecer las actividades típicamente preescolares con el fin de promover el desarrollo de neoformaciones psíquicas propias de este período etario, sin forzar el surgimiento de capacidades propias de períodos posteriores.

Palabras clave: Edad pré-escolar; Psicología histórico-cultural; Zaporozhets; Desarrollo infantil; Educación Infantil.

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