

AT THE CONFLUENCE OF VYGOTSKY'S PEDOLOGICAL AND DEFECTOLOGICAL STUDIES: THE CHILD WITH INTELLECTUAL DISABILITY

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ABSTRACT

This study explores the intersection between defectology and pedology by analyzing traditional texts by L. S. Vygotsky, with an emphasis on the ontogenesis of children with intellectual disabilities. To this end, we ask: what is the interrelation between the theoretical principles of studies in defectology and the pedological factors (environment, age and periodization) that affect the development of children with intellectual disabilities? In a further analysis, what kind of nuances should be considered in the periodization process? The aim is to contribute to an understanding of the role of the environment and the nuances of periodization - with special attention to the processes of generalization and the consequences of social isolation - in these children's development. From this, it can be concluded that: 1. the social environment affects children with disabilities, as it does with all others, in different ways depending on their pedological ages and 2. within the same pedological age, the variables that affect the development of a child with intellectual disabilities, due to the difficulties faced in the generalization processes and, therefore, their relation with the environment can be very different and dissonant when compared to their typical and atypical peers. This conceptual finding raises questions about the periodization developed by Vygotsky in his pedological studies, which, to a large extent, focused on the development of children considered normal.

Key-words: Vygotski, Lev Semenovich; 1896-1934; historic-cultural psychology; child psychology; intellectual disability

En la confluencia de los estudios pedológicos y defectológicos de Vygotsky: el niño con deficiencia intelectual

RESUMEN

En este estudio se explora la intersección entre la defectología y la pedología, al analizarse textos tradicionales de L. S. Vygotsky, con énfasis en la ontogénesis de los niños con deficiencia intelectual. Para tanto, preguntamos: ¿cuál es la interrelación entre los principios teóricos de los estudios en defectología y los factores pedológicos (el medio, la edad y la periodización) que inciden sobre el desarrollo de los niños con deficiencia intelectual? En un desdoblamiento, ¿cuáles matices deben ser consideradas en su proceso de periodización? Se tiene por objetivo contribuir para una comprensión sobre el papel del medio y los matices de la periodización - con atención especial a los procesos de generalización y las consecuencias del alejamiento social - en el desarrollo de esos niños. A partir de ahí, se puede concluir que: 1. el medio social incide sobre el niño con deficiencia, así como sucede con todas las demás, de formas distintas a depender de las edades pedológicas y 2. dentro de una igual edad pedológica, las variables que inciden en el desarrollo de un niño con deficiencia intelectual, en razón de las dificultades enfrentadas en los procesos de generalización y, por lo tanto, de su relación con el medio, pueden ser muy detonados y disonantes cuando comparadas a sus pares típicos y atípicos. Esa constatación conceptual plantea cuestionamientos sobre la periodización elaborada por Vygotsky en sus estudios pedológicos que, en gran parte, se concentraron en el desarrollo de niños consideradas normales.

Palabra clave: Vygotski, Lev Semenovich; 1896-1934; psicología histórico-cultural; psicología del niño; deficiencia intelectual

Na confluência dos estudos pedológicos e defectológicos de Vigotski: a criança com deficiência intelectual

RESUMO

Este estudo explora a interseção entre a defectologia e a pedologia, ao analisar textos tradicionais de L. S. Vigotski, com ênfase na ontogênese das crianças com deficiência intelectual. Para tanto, indagamos: qual é a interrelação entre os princípios teóricos dos estudos em defectologia e os fatores pedológicos (o meio, a idade e a periodização)

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que incidem sobre o desenvolvimento das crianças com deficiência intelectual? Num desdobramento, quais nuances devem ser consideradas no seu processo de periodização? Objetiva-se contribuir para uma compreensão sobre o papel do meio e as nuances da periodização - com atenção especial aos processos de generalização e as consequências do afastamento social - no desenvolvimento dessas crianças. A partir daí, pode-se concluir que: 1. o meio social incide sobre a criança com deficiência, assim como ocorre com todas as demais, de formas diferentes a depender das idades pedológicas e 2. dentro de uma mesma idade pedológica, as variáveis que incidem no desenvolvimento de uma criança com deficiência intelectual, em razão das dificuldades enfrentadas nos processos de generalização e, portanto, da sua relação com o meio, podem ser muito destoantes e dissonantes quando comparadas com seus pares típicos e atípicos. Essa constatação conceitual levanta questionamentos sobre a periodização elaborada por Vigotski nos seus estudos pedológicos que, em grande parte, se concentraram no desenvolvimento de crianças consideradas normais.

Palavra-chave: Vygotsky, Lev Semenovich; 1896-1934; psicologia histórico-cultural; psicologia da criança; deficiência intelectual

INTRODUCTION

This study addresses the theme of the development of children with intellectual disabilities, focusing on the centrality of the role of the environment in ontogenesis, based on the contributions of L. S. Vygotsky (1898-1934). To this end, we aim to conduct a discussion about the aforementioned theme, interweaving two fields of study dear to the author, putting them in dialogue and proposing interpretations; they are: defectology and pedology.

Between 1924 and 1935, Vygotsky wrote a series of works on the theme of disability, presenting them from a perspective that was quite original for his time, in the posthumously organized book: "Fundamentals of Defectology: Selected Works, Volume V" (Vygotsky, 1924-1934/1997), which contains a voluminous compilation of texts and a valuable contribution to Psychology and Education. For the purposes of this article, we highlight his theoretical propositions in the following chapters: "Introducción. Los problemas fundamentales de la defectología contemporánea" (1929/1997); "Acerca de los procesos compensatorios en el desarrollo del niño mentalmente retrasado (1931/1997)"; and "La colectividad como factor de desarrollo del niño deficiente" (1931/1997).

Regarding pedological studies, between 1930 and 1934, Vygotsky published a series of written works, recently translated, about the subject (Vygotsky, 2001/2018; Vygotsky, 2018; Vygotsky, 2022). At that time, he worked at the A. I. Herzen Pedagogical Institute in Leningrad, and at Moscow University, with a group of researchers - A. R. Luria (1902-1977), A. Leontiev (1903-1979), B. Zeigarnik (1900-1988) among others - dedicated to revisiting the traditional concepts of pedological science. Among the numerous works produced, we will center our argumentative efforts on the themes discussed in the book "7 Lectures by L. S. Vygotski about the Foundations of Pedology" (Vygotski, 2001/2018), in which Vygotsky examines child-environment relations through different axes of analysis, exploring relevant methodological issues and conceptual propositions that remain promising to this day.

In the articulation between the chosen and aforementioned texts, it is possible to glimpse a timely, albeit little explored, line of investigation that concerns the in-

tricate relationships between defectology and pedology. Seeking to join forces in this argumentative sequence, we focus on the aspects of the peculiar development of children with intellectual disabilities and ask: what is the interrelation between the theoretical principles of studies in defectology and the pedological factors (environment, age and periodization) that affect their development? In a subsequent unfolding, what nuances should be considered in their periodization process?

To this end, we propose to discuss these classic texts of historical-cultural theory in the format of a theoretical-conceptual study, as suggested by Demo (1985), with the objective of contributing to an understanding of the role of the environment and the nuances of periodization - with special attention to the processes of generalization and the consequences of social isolation - in the development of these children. To this end, we divide the text into three sections, namely: To this end, we divide the text into three sections, namely: 1) Contributions of the concepts in defectology proposed by L. S. Vygotsky; 2) Contributions of Vygotskian pedological studies: the problem of age and the periodization of development and 3) The problem of the environment and the child with intellectual disability.

CONTRIBUTIONS OF THE CONCEPTS IN DEFECTOLOGY PROPOSED BY L. S. VYGOTSKY

When we take a global look at Vygotsky's work, especially his general theory about development, we can affirm that disability and pedology - even when they were not the main objective of discussion - crossed Vygotsky's interests. For him, the issue of disability was fundamental to understanding ontogenesis. Finally: "Pathology provides us with the key to understanding development and development, the key to understanding pathological conditions" (Vygotsky, 1931/1996, p. 206). Pedology studies, in turn, allowed the author to delve deeper into the problem of the environment, shifting his gaze to the details of the elements that affect development, after all

[...] development is always a dynamic process, a unity of hereditary and environmental influences but [...] this unity is not constant, it is not permanent, it is not something given forever and summarily determined. It is a changeable,

differentiated unity, constituted in different forms and requires a specific study each time. (Vygotsky, 2001/2018, p. 73).

The two fields of interest also converged throughout the activities that Vygotsky carried out in different institutional spaces. In 1924, in Gomel, he took over the direction of the sub-department for social and legal protection of children with disabilities - linked to the People's Commissariat for Education - and worked as a teacher and teacher trainer. In 1925, he joined the staff of the Institute of Experimental Psychology in Moscow, at the time directed by Kornilov (1879-1957). There, he worked in other places: at the Moscow Medical-Pedagogical Station (developing research on exceptional children - as they were called at the time) and at the Service for the Socio-Legal Protection of Minors. According to Schneuwly and Leopoldoff (2018), in 1927 Vygotsky was appointed professor of Pedology at Moscow State University, but it was only in 1928, after the publication of the book "Historical Significance of the Crisis in Psychology" (1927/1991), that he adopted pedology as an alternative to psychology. Between 1930 and 1933, Vygotsky carried out a series of studies and clinical evaluations with his research group, treating children and adolescents with developmental peculiarities and other diverse psychopathological cases. He took notes of these clinical interventions in a recently published notebook format (Vygotsky, 2018/2022).

As we have already shown, Vygotsky's concerns about disability issues date back to the beginning of his professional life, in 1924 (Gomel). In 1929, in the text "Introduction. Fundamentals of Defectology", Vygotsky deepened concepts worked on in 1924 in the chapter: "The Defect and Compensation (1924/1997)". In the articulation between these two programmatic texts, we observe that the author develops radical criticisms about the way in which Traditional Psychology quantitatively treated issues related to disability. For Vygotsky, this view - marked by mechanistic naturalism - identified the defect (as in a defective machine) in order to repair it, in order to bring the pathological behavior of the defective child closer to that considered normal. He said that, in this aspect, there was a mismatch between the studies of traditional defectology and pedological research. Finally: "Pedology has long assimilated the idea that the process of child development, if considered from a qualitative perspective, is - according to the words of W. Stern - a chain of metamorphosis" (Vygotsky, 1929/1997, p. 12).

In Vygotsky's opinion, it was imperative that defectology adopt a similar idea already well defended by pedology. Regardless of *developmental specificities (typical or atypical)*, all children, in each period of their development, present a quantitative particularity, a specific structure of the organism and personality. If it is true that quantitative aspects affect development, the qualitative element weighs even more decisively

because personality is not the sum of poorly developed functions and properties, as was believed to be the case with disabled children, but is something qualitatively distinct and new. "The specificity of the organic and psychological structure, the type of development and personality, are what differentiates the child with intellectual disabilities from the normal child, and they are not exactly quantitative proportions" (Vygotsky, 1929/1997, p. 12).

For Vygotsky, in general terms, a defect is the imperfection of an organ or the insufficiency of an organic or psychological function (for example, blindness, deafness, mental deficiency - Mecacci, 2017). However, if on the one hand it is synonymous with limitation, weakness and decreased development, on the other hand, precisely because it produces difficulties, it generates stimuli through compensatory processes.

Vygotsky's theory (Vygotsky, 1924-1934/1997) about compensatory processes is based on the theoretical postulates of W. Stern (1871-1938), a German psychologist, T. Lipps (1851-1914), a German philosopher and psychologist, and A. Adler (1870-1937), an Austrian psychiatrist and psychologist. Stern was a pioneer in defending the idea of the dual role of disability, stating that, along with the weaknesses associated with disability, strengths also emerge to overcome these weaknesses. The normality or abnormality of a person with a disability depends on the result of social compensation, that is, on the final formation of his or her personality. *Lipps' law of the psychic dam*, in turn, suggests that when faced with obstacles, psychic energy is concentrated (and increased) in the affected region, seeking to overcome the obstacle through indirect means. Thus, we have substitutive functions and indirect paths of development when an area of psychic functioning is interrupted. Adler, one of Vygotsky's main influences in studies about defectology, relates the idea of compensation to the balance, adaptation and accommodation of the individual to the environment. He believed that compensation was triggered due to individual discomfort (maladjustment) resulting from disability. In this context, Adler saw a struggle for social adaptation and psychological balance in the formation of personality, suggesting that feelings of inferiority drove children with disabilities to overcome their limitations.

Initially, Vygotsky (1924/1997) agreed with Adler, highlighting the importance of feelings of inferiority in compensatory processes. However, as he advanced in his studies on the centrality of social relations for the development of higher psychological functions, he began to consider the concrete conditions offered by the environment as drivers of compensatory processes. Thus, we have a qualitative leap: the emphasis on the environment and, therefore, on social dynamics as central aspects for the development of people with disabilities. Vygotsky, then, suggests that compensation not only

deals with limitations, but incorporates the social forces and resources that affect the general development of personality. The absence or deficit of a function, in the face of demands present in the environment, can lead to the emergence of new functional connections that act to promote psychological reorganization.

In this sense, it is interesting to note that Vygotsky shifts the status of disability from the solely biological (quantitative) field to the cultural (qualitative) field, by establishing that the difficulties experienced by people with atypical psychological development are realized in the core of social relations (which the author will call the secondary dimension of the defect). The problem is not the defect itself, but how it manifests itself culturally. Vygotsky states that the obstacle of the person with a disability: “[...] does not arise as a biological problem, but rather as a social problem” (Vygotsky, 1924/1997, p. 80).

When discussing the developmental possibilities provided by the environment, the author (Vygotsky, 1931/1997) starts from the thesis that identical laws govern the development of normal children and children with disabilities. He states: “The recognition of the existence of common laws in the normal and pathological spheres is the cornerstone of every comparative study of the child” (Vygotsky, 1931/1997, p. 213). In doing so, Vygotsky does not deny the peculiarities in developmental trajectories, as he understands that regularities, in the case of children with disabilities, occur in a set of distinct concrete conditions and have a “[...] qualitatively peculiar, specific expression, which is not a simple tracing or a photograph of the typical development of the child” (Vygotsky, 1931/1997, p. 213).

Since Vygotsky (1931/1997) assumes the centrality of the social and historical genesis of ontogenesis, his concern in relation to the child is linked to the role of the environment (particularly the collective) as a factor of development. In the case of children with disabilities, this concern is even more evident, as we will discuss later.

We know that for the author, the emergence of higher, human psychic functions is only possible in the process of the child's social development. In other words, in the child's insertion into social practices. Góes (2008, p. 38, emphasis added by the author), when discussing the contributions of historical-cultural theory to thinking about the education of children with disabilities, is categorical “[...] the subject is in social life, therefore, his possibilities of development are in him and in other members of the culture in which he lives”.

To this end, Vygotsky (1931/1997) is interested in focusing on the dialectic between the social and the singular, asking:

[...] where do the higher processes of children's thinking come from, how are they formed, in what way do they develop? We must answer that they emerge in the process of the child's social development through the transfer to himself of

the forms of collaboration that he assimilates in the relation with the social environment that surrounds him. (Vygotsky, 1931/1997, p. 219).

Thus, higher psychic functions are the result of the child's collaboration with the people around him/her: the social environment. In his words, “the development of the child's personality manifests itself, always and in all cases, as a function of the development of his/her collective behavior [...]” (Vygotsky, 1931/1997, p. 220). For us, this thesis is a source of inspiration for outlining the argument about the role of the environment in the psyche of children with intellectual disabilities. However, before focusing on the problem of the environment, it seems essential to understand how Vygotsky defines it in line with the conceptual principles presented in his studies in pedology.

CONTRIBUTIONS OF VYGOTSKY'S PEDOLOGICAL STUDIES: THE PROBLEM OF AGE AND PERIODICATION OF DEVELOPMENT

According to Schneuwly and Leopodoff (2018), the science of children under the term pedology was proposed by Oscar Chrisman in 1892. It developed as a field of knowledge that brought together numerous scientists from different areas (medicine, sociology, history, law, physiology, etc.) who have childhood as their object of convergence. The 1st congress about pedology took place in 1911, due to the advances in schooling processes that emerged in Europe. However, due to the context of the First World War, it quickly disappeared.

However, in the isolated Soviet Union, pedology continued to develop. Thus, in 1927, at the 1st All-Russian Congress (12/27/1927 to 01/03/1928), organized by N. Krupskaja (1869-1939), the issue of children was taken up again by different disciplines, strongly impacting the transdisciplinary fields that constitute it. It is in this context of academic effervescence that Vygotsky produced his first texts about the subject.

For Vygotsky, pedology is the science of child development, but he warns that this definition seems incomplete because it lacks a better definition of what development really is. In these terms, development needs to be understood from its historical bases and its rhythm is not given by chronological counting. Development as a process has a beginning, middle and end, in addition to having stages and rhythm that do not necessarily coincide with chronological time. The time of child development is, therefore, pedological because its content changes throughout development in the different years of the child's life, as we will see in more detail below.

In this way, the value of each time interval is defined not by the size of that interval – one year or five years or one month – but by the place it occupies in the child's development cycle. This is related to the fact that time affects development in different ways depending on age. “Therefore, there is a need to determine the pedological

age, that is, the level of development that the child has actually reached and not their age according to the birth certificate (Vygotsky, 2001/2018, p. 20).

Here, Vygotsky focuses his attention on pedological studies, more specifically about the problem of periodization, evidencing his interest in the transformations that occur in each period of child development and the role of the environment. He emphasizes that these changes are a structural, functional and maturational nature, demanding a comprehensive approach. We then have the changes in development itself; turning points (critical periods) and the main periods of formation of the child's personality, which are commonly referred to as ages and which should not be confused, as we have previously raised, with chronological age.

In these terms, in order to understand the specificities of child development and the way in which psychic functioning, in systemic terms, is structured in ontogenesis, Vygotsky (1931-1933/1996) sought to understand the cyclical changes that emerge at different ages. According to him, reflection on ages involves considering various biological and social signs in dialectical articulation. These signs are seen as expressions of the content of development, and not merely as superficial signs or apparent symptoms of the process. Therefore, we must first take into account the pedological and contextual factors, instead of simply depending on the measurement of the time elapsed since the child's birth.

Vygotsky characterized the development process based on the alternation of stable and critical periods, linked to the role that the environment has for the child at different ages (Vygotsky, 2001/2018). Stable and critical periods are identified by Vygotsky as follows: the crisis of birth (pre-critical, critical, and post-critical phases); the first year — or the infant's breastfeeding stage — (2 months to 1 year, subdivided into early infancy and later infancy); the crisis of early childhood (pre-critical, critical, and post-critical phases); early childhood (from 1 to 3 years, subdivided into first and second phases); the three-year-old crisis (pre-critical, critical, and post-critical phases); preschool age (3 to 7 years, subdivided into early preschool and late preschool stages); the seven-year-old crisis (pre-critical, critical, and post-critical phases); school age (8 to 12 years, subdivided into early and late school age); the thirteen-year-old crisis (pre-critical, critical, and post-critical phases); the transition age — or puberty — (14 to 18 years, subdivided into early and late puberty); the seventeen-year-old crisis (pre-critical, critical, and post-critical phases) Vygotskij, 2018.

The most stable periods are predominantly long, marked by changes in the child's personality that occur smoothly and gradually, often going unnoticed by observers (first year; early childhood; preschool age; school age and transitional age). These changes

are the result of apparently insignificant molecular achievements. Microscopic changes accumulate in the child's personality until they reach a certain limit. However, he argues that by comparing the beginning and end of a stable period, it becomes possible to identify a qualitative and significant differentiation in the child's overall development. Thus, at each age in a new central formation emerges in the psychological system (dynamic and functional) that implies a reorganization of the child's personality based on new foundations. The fact is the elements that, until then, guided his/her action and interest lose prominence. Others enter the scene.

The transition between a period of relative stability to its subsequent period is characterized by a moment of crisis. The critical intervals, corresponding to the ages of 1, 3, 7 and 13, present signs of instability in the child's personality. We then see the emergence of these abrupt occurrences that, at the same time, manifest themselves in terms of setbacks, allowing the emergence of a qualitatively new formation of the systemic functioning of the psyche. These moments result in the extinction of the previous structure and the emergence of new personality aspects. Therefore, critical periods should not be viewed negatively, since they play a fundamental role in development. The crisis is not only destructive, but also creative.

The beginning and end of each crisis cannot be rigidly established. Transformations in the child's personality and developmental trajectory progressively intensify, culminating in a marked peak, although their origins remain difficult to discern. In the meantime, the child may experience moments of suffering and internal conflicts due to the characteristic instabilities. It undergoes a profound, sudden transformation, somewhat reminiscent of the dynamics of revolutionary events, both in the accelerated pace of the changes and in their significance in ontogenesis. These are turning points, as we have previously highlighted. The result of critical periods is the new psychic formations (neoformations) that will constitute the child's development and the formation of his or her personality.

As an example, we can cite what happens to the child during the critical period of 3 years (the three-year crisis). There is a set of primary symptoms that characterize this period. The first of these is negativism, when the child opposes all the adult's proposals; the opposition is not in relation to the proposed activity, but rather to the adult who proposes it. The second symptom is stubbornness, the child demands something not because he wants it, but because he has demanded something, he insists on his demand. Stubbornness refers to when the child needs to insist on his decision, even if he has already changed his mind. We can say that negativity has a social tendency (it is in relation to the other); stubbornness has an individual tendency (in relation to the child himself). A third symptom is rebellion, when the child begins to

rebel against everything he previously liked. And, finally, willfulness; he wants to be independent, to do everything alone. Some secondary symptoms arise from these primary symptoms: the tendency to be independent leads the child to develop internal and external conflicts, which can be perceived by behaviors such as tantrums, muteness, restless sleep, bedwetting, among others. In short, the three-year crisis is the crisis of the child's social relations, it is the product of the restructuring of the reciprocal social relations between the child's personality and the people he lives with.

Following this line of argument, we can summarize that the formation of the psyche is conceived as a process of systemic functional revolutions whose main characteristic is the dialectical and creative dynamics that emerge from the child's relation with the environment.

THE PROBLEM OF THE ENVIRONMENT AND THE CHILD WITH INTELLECTUAL DISABILITY

Vygotsky (2001/2018, p. 85) states that "[...] in the development of the child, what should be obtained in the end, as its result, is given, from the beginning, by the environment". For him, the social environment is taken as a source of development of new psychic formations (neoformations) that are directed to the constitution of the particularities of the personality. Thus, the environment cannot be confused with the environment; it is a source of development.

These more general considerations could lead us to the conclusion that the child responds passively to the environment, as the reactologists defended. However, this would be inconsistent with the historical materialist episteme, of which Vygotsky is a part, which understands the subject-environment dialectical relation, mediated by technical-semiotic instruments, as an explanatory basis for understanding what is specifically human. Therefore, we can affirm that, in ontogenesis, the child is not passive in the face of experiences with the environment; on the contrary. He (re)acts, responds, actively participates in these experiences, constituting himself through the transformative interdependence between the social conditions in which he finds himself and his own psychic formation. That is, "it is not only the child who changes, but also his relation with the environment, which begins to influence him in a new way" (Vygotsky, 2001/2018, p. 83).

Thus, we have the social situation of the child's development is not defined passively, but it also does not occur autonomously, it is an endogenous, rigid and progressive stage structure, as suggested by theorists of cognitive approaches. The child-environment relation is unique, peculiar and unrepeatable and, depending on what is experienced with the environment, it can undergo profound changes: evolutions, revolutions and involutions. Therefore, Vygotsky (1931-1934/1996) takes the social situation of development, linked to the problem of age, as a starting point for dynamic transformations that occur ontogenetically. He explains

(Vygotsky, 2001/2018, p. 22): "[...] development is not a process organized temporally in a simple way, but in a complex way; its rhythm does not coincide with the rhythm of time", but depends on the child's pedological age.

Vygotsky gives us the example of a situation he experienced in the clinical context. Three children of different ages, from the same family, have an alcoholic mother who, when drunk, behaved in a way that filled the children's environment with fear and terror. When evaluating them, he observed that they presented completely different developmental disorders due to the situation they experienced with their mother. The youngest child developed fears, stuttering, and reacted to the situation with depression and defenselessness. The middle child presented quite contradictory behavior; a state of extreme suffering due to the internal conflict between having a strong emotional relationship with his mother and, at the same time, a terrible hatred for her. Finally, the oldest child, aged 10-11, showed signs of maturity and understanding of the situation, prematurely assuming the role of caring for his mother and younger siblings. As a result, he was not a child with the liveliness corresponding to his age, but someone who had assumed more mature responsibilities than those expected for his age.

With this exemplary situation, Vygotsky (2001/2018, p. 77) concludes that "[...] the same environmental situation, the same event that affects different people who are at different age stages has a different influence on the development of each of them". This occurs because the true source of psychic development is the child's social reality (the environment) linked to their pedological age (Vygotsky, 1931-1934/1996, Vygotsky, 2001/2018) and the way in which they experience a given situation.

Pino (2010), when discussing the concept of environment addressed by Vygotsky, clarifies that it is not the environment itself that exerts influence on the child, but the way in which each of them signifies the semiotic lived experience. Therefore, understanding the environment always means understanding it semiotic, in the dynamics of social relations in which they are shared in the signification processes. In short: the word is "[...] one of the main instruments through which the child has a psychological relation with the people around him/her (Vygotsky, 2001/2018, p. 81).

If it is correct, we must focus on the relation between the child and the environment as a central part of the development of consciousness itself: production of meanings and stabilization of shared meanings in social exchanges with the child. In this way, we agree with Pino (2010): the problem of the environment is always a problem of signification. However, since all signification involves processes of generalization, we are forced to say that, by logical deduction, the problem of the environment necessarily implies the forms of

generalization that emerge from social exchanges. This seems to be the nodal element that involves the problem of the child with intellectual disabilities, as will be discussed.

In defectological studies, Vygotsky states that the key to the entire problem of the development of the child with disabilities is the difference between the insufficient development of elementary functions (of a quantitative order) and the functions higher psychic functions (of a qualitative nature), when compared. For the author, as a direct consequence of the disability, the elementary functions and the higher psychic functions develop incompletely. However, it is erroneous to understand that all complications resulting from the disability are the result of the incompleteness of the elementary functions. The primary consequences of the disability have a less decisive impact on development than those of a higher order and, therefore, of social genesis. After all, “[...] the greatest possibilities for the development of a child with a disability are much more in the field of higher functions than in the area of lower functions (Vygotsky, 1931/1997, p. 221). In general terms, Vygotsky wants to tell us that the problem of a child with an intellectual disability is not in the defect itself, but in everything that refers to higher functions, therefore, of social genesis and centrally involves the processes of generalization of the word meaning.

We know that, in each period of development, the processes of generalization of the word differentiate themselves, that is, they become increasingly more complex and abstract, as well as hierarchical and conceptually articulated with each other. Vygotsky (2001) explains that when a child learns a new word, its meaning is just beginning, that is: the generalization processes resulting from this learning depend on the child’s (shared) social history with the sign itself mediated by the other. This means that the way children understand the events around them differs throughout child development (periodization) and is different from the way adults do. Vygotsky (2001/2018, p. 82) explains:

Adults cannot always convey to children the complete meaning of a given event. They do not understand everything, but only a part; they understand one aspect and not another; they understand in their own way, reworking, restructuring in their own way, selecting only a part of what was explained.

The generalization processes complexity corresponds to the different periods of development and unfolds towards different forms of elaboration about reality. Therefore, Vygotsky emphasizes that “[...] the development of children’s thinking and generalization is also linked to the influence of the environment on the child” (Vygotsky, 2001/2018, p. 83). However, not only that; the generalization processes are also related to the periodization characteristics highlighted by the author.

Vygotsky (1931/1997) raises the question about why higher psychic functions develop incompletely in children with intellectual disabilities. He himself answers:

It is not because the defect directly prevents them, or because their emergence is impossible. On the contrary, the experimental study has demonstrated, without a doubt, that, in principle, it is possible to develop, even in children with mental retardation, the types of activity that are at the basis of higher functions. (Vygotsky, 1931/1997, p. 216).

For him, the incomplete development of higher functions results from a secondary superstructure of the defect, that is: the distancing from the collective. Vygotsky explains that “a series of particularities arise in the child that hinder the normal development of the relation of coexistence in the collective, of cooperation and of the relation of this child with the people around him” (Vygotsky, 1931/1997, p. 223).

In this sense, the author (1931/1997) highlights the dialectical relationship between the development and education of children with disabilities, signaling the relevance of confluent and indirect paths (of the environment) that constitute higher psychic functioning. Such paths are only found in the collective dynamics of life. Thus, for example, an educational practice that deprives children with intellectual disabilities of collective collaboration and the possibility of living with other children who are better developed than them only contributes to aggravating what causes the incomplete development of higher psychic functions (Mendonça, Silva, Barbosa-Andrade, & Silva, 2020).

Despite these considerations, throughout the argumentative exposition of “Fourth Class: the question of the environment”, Vygotsky (2001/2018) addresses this issue from another perspective by focusing on pedagogical issues. He explains that children with intellectual disabilities, because they have difficulty generalizing, do not relate to the events they experience with the same intensity and meaning as children considered normal. He states that we are easily convinced that these children do not have sufficient understanding, because they have difficulty generalizing the situation they experience.

An unpleasant situation, for example, is not experienced by an atypical child in the same way as a child considered typical at the same pedagogical age. Regarding this, he states, when giving the example of a child with intellectual disabilities who is being bullied by his class, that:

[...] whenever they tease him, it is unpleasant for him. However, how can we generalize and reach the same level as any normal child, giving rise to feelings of worthlessness, humiliation, and hurt self-esteem? This does not happen because the child (with a disability - our insertion) does not fully

understand the meaning and significance of what is happening to him. (Vygotsky, 2001/2018, p. 81).

For Vygotsky, the insufficient meaning of a given event, linked to incomplete generalization processes, makes the child with intellectual disabilities somehow more protected from “[...] illnesses, pathological reactions and developmental deviations to which other children are subject” (Vygotsky, 2001/2018, p. 81). This occurs because the environment affects them in a profoundly peculiar way, to the extent that their semiotic resources are, in a certain way, incomplete.

Here, we have an important propositional synthesis: on the one hand, we know that intellectual disability is characterized by an incompleteness in higher-order functioning, which affects generalization processes and brings limitations to the way in which the child understands the situation experienced (even when it seems to protect them); on the other hand, we also know, based on Vygotskian propositions, that it is precisely in this weakness that its strength lies, to the extent that we understand that superior functioning is constituted in social relations and is the result of the child’s belonging to the collective work with the sign.

This proposition-synthesis brings other theoretical-conceptual developments when we take the problem of the environment and periodization as a central issue for understanding the particularities of children with intellectual disabilities. After all, what are the nuances that should be considered in the process of periodization these children?

The answer to this question is not easy and care must be taken not to fall into cartesian reductionisms. Through one path of analysis, we have the fact that, depending on the pedological age, a given situation is experienced differently by each child - as occurs with the three children of the alcoholic mother mentioned by Vygotsky. This means that all children, including those with disabilities, seem to follow the same pedological dynamic that in a certain way respects a periodization process. In the author’s words: “The same event that occurred at different ages of the child, when reflected in the child’s consciousness in an absolutely different way, has an absolutely different meaning for the child” (Vygotsky, 2001/2018, p. 81).

On the other hand, in children with intellectual disabilities, another element needs to be considered when we dialectically articulate the the child’s developmental conditions are related to the way the environment is experienced by him/her. Thus, within the same pedological age, the variables that affect his/her development and the difficulties faced in the generalization processes can be very different and dissonant, both among themselves and when compared to those considered normal. This leads us to question the periodization developed by Vygotsky, who focused, for the most part, in his pedological studies, on characterizing the development of children considered normal.

FINAL CONSIDERATIONS

Based on the discussions presented in this text, we aim to propose a new interpretative approach to Vygotsky’s work by articulating his contributions to defectology with his studies in pedology. At this intersection, we consider the relationship between environment and child development as a central issue, identifying in the processes of generalization a key to understanding the pedological specificities of children with disabilities. In this confluence, we take the problem of the environment and the development of the child as a nodal point, finding in the processes of generalization the key to understanding the pedological specificities of children with disabilities.

In an unfolding of this more general consideration, we were able to reach at the following summary proposition: the child with intellectual disabilities presents incompleteness in the processes of generalization, but it is precisely there that, according to Vygotsky, their limitations can be transformed into opportunities for development resulting from social relations and their participation in collective work. It is only in the collective that new processes of signification (generalization) emerge that give rise to unusual and creative developmental paths.

In the unfolding of this proposition-summary, we have two important conclusions:

- All children, including those with intellectual disabilities, seem to follow a certain periodization process that causes the same situation to be experienced differently by children at different pedological ages.
- Within the same pedological age, the variables that affect the development of a child with intellectual disabilities, due to the difficulties faced in the generalization processes and, therefore, their relation with the environment, can be very different and dissonant when compared to their typical and atypical peers. This conclusion raises questions about the periodization developed by Vygotsky in his pedological studies, which, to a large extent, focused on the development of children considered normal.

These questions contribute to the fields of Education and Psychology, emphasizing that the concept of collective cannot be restricted to the availability of others, nor even to the inclusion of children in social practices. It is much more about a deliberate action by the other (whether a teacher or a psychologist) to act on the processes of signification, reconfiguring and expanding, at increasingly complex levels, the meanings of the environment for the child. In this way, clinical and pedagogical interventions need to be oriented towards the development of higher psychic processes, from the complex perspective of abstract thought and, therefore,

broadening semiotic experiences that are relevant and make sense to the child.

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Note:

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Data availability

Research data are available in the document.

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