

# Zankov didactic system: sixty-six years of experimental trajectory (1957-2023)<sup>1</sup>

## Sistema didático Zankov: sessenta e seis anos de trajetória experimental (1957-2023)

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### ABSTRACT

This text proposes to emphasize the aspects that underlie the Zankov system from a didactic and methodological point of view. For this, at first, it emphasizes the life and work of its precursor, Leonid Vladimirovich Zankov, focusing on the author's thought that supports the intense experimental activity carried out in Soviet schools, in the period from 1957 to 1977. In a second moment, presents a synthesis of the main aspects that characterize the system, such as: (1) its purposes; (2) the necessary conditions for learning; (3) the didactic principles; (4) the method and methodological proposal; (5) the characteristics of the Zankovian class; (6) teaching materials; and (7) the role played by the teacher and the family in the Zankovian school. The process of experimentation, implementation and official recognition of the system runs through the entire text, aiming to cover, albeit in a synthetic and introductory way, the sixty-six-year history of the Zankov didactic system (1957 to 2023), which allows the reader to have a broad and comprehensive view of the proposal that guides this didactic perspective of

### RESUMO

O presente texto se propõe enfatizar os aspectos que fundamentam o sistema Zankov do ponto de vista didático e metodológico. Para isso, em um primeiro momento dá relevo à vida e obra de seu precursor, Leonid Vladimirovich Zankov, com foco para o pensamento do autor que sustenta a intensa atividade experimental realizada em escolas soviéticas, no período de 1957 a 1977. Em um segundo momento, apresenta uma síntese dos principais aspectos que caracterizam o sistema, tais como: (1) suas finalidades; (2) as condições necessárias para a aprendizagem; (3) os princípios didáticos; (4) o método e a proposta metodológica; (5) as características da aula zankoviana; (6) os materiais didáticos; e (7) o papel que assumem o professor e a família na escola zankoviana. O processo de experimentação, implementação e reconhecimento oficial do sistema atravessa todo o texto, visando percorrer, ainda que de forma sintética e introdutória, a história de sessenta e seis anos do sistema didático Zankov (1957 a 2023), o que permite ao leitor ter uma visão ampla e abrangente da proposta que orienta essa perspectiva didática de aprendizagem desenvolvimental; bem como introduz o contexto teórico, conceitual e metodológico a partir do qual

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developmental learning ; as well as introducing the theoretical, conceptual and methodological context from which the other articles that make up the Zankov Didactic System dossier are situated.

**Keywords:** Zankov Didactic System. Leonid Vladimirovich Zankov. Developmental learning. Developmental didactics.

se situam os demais artigos que compõem o dossiê Sistema Didático Zankov.

**Palavras-chave:** Sistema Didático Zankov. Leonid Vladimirovich Zankov. Aprendizagem desenvolvimental. Didática desenvolvimental.

## Introduction

The Soviet developmental didactic system L.V. Zankov is, along with the Elkonin-Davidov-Repkin and Galperin-Talízina systems, one of the three most widespread in the world context (although it is the least known in Latin America and Brazil). It is also one of the three state education systems that has been recognized by the Russian Ministry of Education and Science, accompanied by the Elkonin-Davidov-Repkin and traditional systems.

The principles of this didactic perspective were developed by L. S. Vygotsky's student, Leonid Vladimirovich Zankov, in a partnership he established with various groups of teachers, teachers, methodologists and psychologists, especially with his laboratory team, in a period that extended between the final years of the 1950s and 1970s (from 1957 to 1977).

L. V. Zankov became an expert in the field of defectology, memory, and pedagogical psychology. He carried out numerous experimental studies on child development that led him to establish the necessary conditions for developmental learning and allowed him to coordinate the work that resulted in the proposition of a new didactic system.

Recent studies conducted in Brazil (AQUINO, 2013; FEROLA, 2019; LONGAREZI, 2020; FEROLA; LONGAREZI, 2021; PUENTES; AQUINO, 2018; PUENTES; LONGAREZI, 2018; PEREIRA, 2020; GARCIA, 2021; AMORIM, 2022; PEAR TREE; RESENDE; AQUINO, 2023; GARCIA; MIRANDA; NOLETO, 2023; LONGAREZI; FEROLA, 2023; AMORIM; LANDMARK; PEREIRA, 2023 etc.) have given prominence to the important contributions of this system to an education that develops man.

Its creation, implementation and consolidation in the Soviet context goes through at least four moments: (1) from 1957 to 1962, the period of genesis and implementation of the system; (2) from 1962 to 1977, a period of expansion and consolidation of the system; (3) from 1977 to 1993, the period of dissolution of the system; and (4) from 1993 to 2018, the period of its revitalization and officialization (PUENTES; AQUINO, 2018). In this last period, there was the creation of the Zankov Federal Scientific and Methodological Center, in 1993, and the recognition of the system by the Ministry of Education and Sciences, in 1996; as well as its exclusion from the official Russian education system in 2014, which changes its status within the public policies and educational guidelines of the Russian government. Currently, although the system is the least known in the Brazilian context, and perhaps even because of this, the interest in this system has increased among researchers and scholars in Brazil, which generates a greater demand for studies in the area.

The dossier Zankov Didactic System seeks to bring together theoretical-conceptual and practical experimentation works produced and/or carried out in the Soviet and Brazilian contexts within the scope of conceptual delimitation, didactic principles and methodological guidelines that support the system. In order to open the problem that the dossier intends to address, the present text proposes to emphasize the aspects that underlie this system from a didactic and methodological point of view.

To this end, it is initially sought to highlight the life and work of the precursor of the system, Leonid Vladimirovich Zankov, focusing on the author's thought that supports the intense experimental activity carried out in Soviet schools, in the period from 1957 to 1977, in which the Zankov system was built.

Secondly, a synthesis of the main aspects that characterize the system is presented, such as: (1) its purposes; (2) the necessary conditions for learning; (3) didactic principles; (4) the method and the methodological proposal; (5) the characteristics of the class in this system; (6) teaching materials; and (7) the role of the teacher and the family in the Zankovian school.

The process of experimentation, implementation, and official recognition of this approach runs through the entire text, aiming to cover, albeit in a synthetic and introductory way, the sixty-six-year history of the Zankov didactic system (1957 to 2023). With this, it is expected to allow the reader to have a broad and comprehensive view of the proposal that guides this didactic perspective of developmental learning; as well as introduces the theoretical, conceptual and methodological context from which the other articles that make up the dossier Zankov Didactic System are situated.

### **Life and Work of Leonid Vladimirovich Zankov: The Forerunner of the System**

The life and work of L. V. Zankov were the object of systematizations carried out by Soviet and Latin American authors (BOGUSLAVSKY, 2000; NECHAEVA; ROSHCHIN, 2006; ZVEREVA; NECHAEVA; PETROVA, 2015; GURKOVA, 2016; KOROBENIKO, 2021; AQUINO, 2013; FEROLA, 2019; AMORIM, 2022, among others); in addition to being registered in digital libraries (BIBLIOTECA CIENTÍFICA REGIONAL VLADIMIR, 2023). As a synthesis, they are treated here especially because they situate the author's thought and historicize the production that impacts the direction taken by the system that arises from this approach.

L. V. Zankov was born on April 23, 1901, in Warsaw, a city that at the time belonged to the Russian Empire, and died on November 27, 1977, in Moscow, Russia. The second of four children of a Russian officer, he grew into a cultured family where he was able to have a broad education, including in the field of the arts. Personally, I had a special interest in music.

Figure 1: Leonid Vladimirovich Zankov (Леонид Владимирович Занков)



Source: <https://nsc.1sept.ru/article.php?ID=200600801>

Teacher, psychologist, defectologist and pedagogue, L. V. Zankov was a student of L. S. Vygotsky and studied in depth the problem of the relationship between learning and development. According to L. S. Vygotsky, he participated in his internal research conferences, organized with his closest students and collaborators. L. V. Zankov was on the list of researchers whom L. S. Vygotsky intended to invite to join the Department of Psychology at the Union Institute of Experimental Medicine.

Figure 2: Among the men standing, from left to right: the first is I.M. Soloviev; the third, A.R. Luria; the fifth, L.S. Vygotsky; and the seventh, L.V. Zankov.



Source: <https://psyhistorik.livejournal.com/11502.html>

Despite this, L. V. Zankov avoided large gatherings and his presence at scientific congresses was rare. For example, he was never present at the meetings of the Moscow branch of the Society of Psychologists. His discreet and reserved demeanor kept him, in a way, distant from his academic colleagues (ZVEREVA; NECHAEVA; PETROVA, 2015).

He graduated from high school in Moscow in 1916 and in 1917 began teaching as a teacher in a rural school in the village of Turday in the Tula region. In 1918, he began to work in rural schools, in agricultural colonies. In 1919, he moved to Tambov Province (almost 500 km from Moscow) where he worked as a teacher and director of a children's agricultural colony in Morshansk.

He returned to the Moscow region in 1920, where he taught in the Ostrovania colony. From 1922 to 1925 he graduated from the social and pedagogical department of the Faculty of Social Sciences at Moscow State University, where he devoted himself to the study of memory.

The years from 1924 to 1927 are marked by the strengthening of his ties with L. S. Vygotsky, especially after his entry in 1925 into the Graduate Program of Moscow University at the Institute of Psychology, when he became one of the first students of L. S. Vygotsky, along with Ivan M. Solovyov, Leonid Sakharov and Boris Varshava. Under his influence, L. V. Zankov, who until then had focused on the general problems of the psychology of memory, included in his research program studies on the psyche and learning characteristics of children with disabilities. During this period, extending to 1929, he took up the post of inspector of the People's Commissariat of Education or Narkompros, in the Soviet department responsible for the administration of public education and culture of the Russian Soviet Federative Socialist Republic (RSFSR).

From 1929 to 1944 he was deputy director of scientific and educational work in the field of abnormal childhood. From 1929 to 1953, when Stalin died, he worked in the Psychology Laboratory of the Institute of Defectology of the Academy of Pedagogical Sciences (APN) of the RSFSR. He was a pioneer in research on the learning and education of children with disabilities. He advocated the need to create a classification of mental retardation and created the basis of special psychology. Many theoretical dispositions formulated by L. V. Zankov formed the basis for the development of the main problems of defectology.

In the 1920s and 1930s, he devoted special attention to the study of the development of verbal speech in deaf people and to the characteristics of mimic and gestural speech formation in deaf people. L. V. Zankov, together with I.M. Solovyov, was one of the first to produce in the field of special psychology, with the systematization of studies on the psychology of deaf children. The book "Essays on the Psychology of the Deaf-Mute Child", from 1940, analyzes mainly the characteristics of the cognitive activity of children with hearing impairment. This study demonstrated that the learning process of deaf people cannot be adequately performed without knowledge of their psychological characteristics.

Concerned about the cognitive abilities and memory problems of children with disabilities (mental retardation), he coordinated a team that carried out a

series of experiments, from which he was able to prove the influence that adequate learning has on the development of children with disabilities, the importance of these processes considering the characteristics of the child's development and their compensatory capacities.

His studies confirmed anthropometric indicators and led him to conclude that a child with a disability goes through the same sequence of stages as those considered without a disability, but their development occurs differently. In one of their aspects, the experiments dealt with the differences between the learning content for children from mass schools and those with disabilities. From then on, it opposed the current model of education for school-age children with disabilities, especially with regard to the reproduction of programs from mass schools to special schools.

Their studies have proven, therefore, that the development of higher psychological functions occurs differently between children with and without disabilities. He defended the need to create special psychological and pedagogical conditions for a type of learning that constitutes a developer, in order to guarantee different conditions between different groups of students.

In the period from 1939 to 1945, during World War II, he dealt with problems of functional recovery of the wounded. Still in the 1940s, he dedicated himself to teaching in the area of memory psychology and investigated the correlation between spontaneous and mediatized memorization. Between 1943 and 1944, he coordinated research in hospitals to restore speech in wounded soldiers who had craniocerebral injuries from the war.

In 1944 he was appointed director of the Institute of Scientific Research of Defectology and, in 1951, deputy director of science of the Institute of Theory and History of Pedagogy, both allocated to the Academy of Pedagogical Sciences of the USSR. During this period, he dedicated himself to the study of general pedagogy and, from 1955, he assumed the leadership of the Experimental Didactics Laboratory, which was renamed the “Learning and Development Laboratory”.



Systematic experimental work in elementary schools began in 1957 at school no. 172. The focus of research in this period was fundamentally on the relationship between learning and development in formal education in general. This work led to the systematization of the Zankov system, along with the elaboration of teaching materials for different school subjects, over a period that extended over 20 years and ended with the death of L. V. Zankov in 1977. His death put an end to experimental work with the suspension of experimental classes and the dissolution of the Learning and Development Laboratory.

The recognition of the experimental activity carried out, which resulted in the creation of the Zankov system, only occurs 20 years later, marked by two episodes in particular: (1) the creation, by the Ministry of Education and Sciences of Russia, of the Zankov Federal Scientific and Methodological Center in 1993; and (2) the public declaration by the Russian Ministry of Education and Science that, in the year 1996, granted the Zankov system the official status of a state education system, along with the Elkonin-Davidov-Repkin and traditional systems.

L. V. Zankov was a prolific writer, with more than 200 scholarly publications, including at least 15 complete works, with editions translated in 14 countries. His studies have focused on three main themes: (1) psychology of memory, (2) defectology, and (3) learning and development.

### *Contributions to the study of memory*

L. V. Zankov began his studies on mnemonic processes during his undergraduate studies (between 1922 and 1925) and four main lines stand out: (1) the genetic analysis of mnemonic activity, (2) the technical analysis of the manifestation of mnemonic activity, (3) the analysis of the discrepancy between a certain mnemonic task and the actual content of the memorized material and (4) the specificities of the processing of information stored in memory and manifestation of such processes in the form of transformation in memory productivity over time.

It was intended to highlight the connections between the changes in memory processes throughout the child's development and the restructuring of their activity, in order to establish the regularity of memory phenomena and explain their meaning. His main publications on the psychology of memory consist of: 1942 – *The Psychology of Reproductive* (doctoral thesis).

1944 - *Psychology and Pedagogy of Memory*

1944 - *Память школьника* (Memory of school children)

1944 - *Память школьника, ее психология и педагогика: Пособие для учителей* (Memory of schoolchildren, their psychology and pedagogy: a manual for teachers)

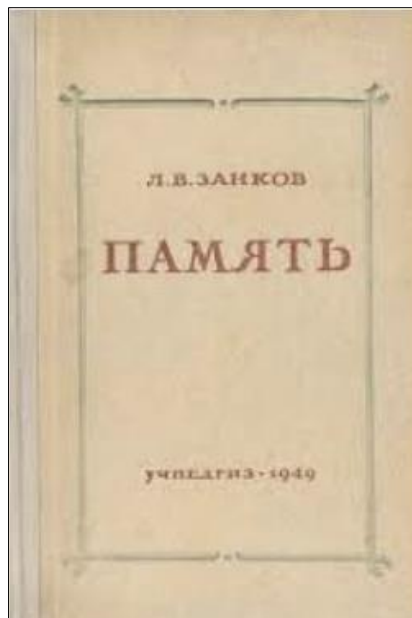
1949 - *Память* (Memory).

1957 - *The theory of memory*. In: *Psychology in de Soviet Union*. London: Butler & Tanner Ltda.

1958 – *Combination of teacher's words and evidence in learning*.

1977 - *The Dependence of Mnemonic Processes on the Structure of Formal Teaching*. *Journal of Russian and East European Psychology*. Volume 15, Number 4 / Summer.

Figure 3: Cover of the book “Memoir” (1949).



Source: <https://library.vladimir.ru/news/l-v-zankov-vydayushhijsya-psixolog-uchyoniy-pedagog.html>

“Memoir” (1949) is the publication of L. V. Zankov's monograph, in which the author presents the results of research by Soviet psychologists. In this work, it is demonstrated, on the one hand, the connections that exist between the problem of the psychology of memory and its development and, on the other hand, the issues related to didactics and methods.

#### *Contributions to Defectology:*

His studies on defectology peaked in the 1930s and 1940s, although materials on this subject were published later, as can be seen in some of his main contributions on the subject:

1936 – *El niño mentalmente retrasado* (The Mentally Retarded Child)

1939 – Психология умственно-отсталого ребенка (Psychology of the mentally retarded child)

1940 – Essays on the psychology of deaf-mute children.

1940 - *Aspects of the Psychology of the Oligophrenic Child and the Mentally Retarded Child* (with I. I. Danyushevsky)

1953 - *Characteristics of the cognitive activity of children in special schools* (with I. M. Soloviev).

1972 - *Vygotsky as defectologist* (with I. M. Soloviev)

#### *Contributions to the field of education (learning and development):*

The works produced in the field of education, especially in the learning-development relationship, gained strength after his insertion in the experimental field carried out in elementary schools, which began in 1957 and followed him until his death in 1977.

In his best-known works, the emphasis on the methodological principles and guidelines produced in the context of experimental learning that marks the activity within the Zankov system stands out, as well as the experience and results produced in the context of the schools that worked under this approach. Among his productions on this theme, the following stand out:

1960 - *наглядность и активизация учащихся в обучении* (The visibility and activation of students in *learning*)

1962 - О предмете и методах дидактических исследований (On the Subject and Methods of Didactic Research)

1963 - *О начальном обучении* (About *primary learning*)

1963 - *Pupils' Development in the Learning Process (Grades I-II)* (Development of students in the *learning process*) (I – II Year)

1968 - *Didactics and Life* (Didática e vida).

1975 [1984] *Teaching and Development*. (Experimental pedagogical research).

1975a - *Обучение и развитие* (*Learning and development*).

1975b - *Conversations with Teachers* (Conversas com professores)

1989 - Combinations of verbal and visual means in teaching - *exposes the results of your research, explains the relationships between visual means and the teacher's word, shows the relevance of written language for the disposition of thought.*

1990 - *Избранные педагогические труды* (Selected pedagogical works).

L. V. Zankov's production in the field of learning and development was fundamental for the systematization of the principles and methodological orientations that gave the system its identity. In the set of this work, three works stand out that bring together fundamental aspects of the position of this important teacher, psychologist, defectologist and pedagogue: "Didactics and life" (1968); "Learning and Development (1975a); and "Conversations with Teachers" (1975b).

Figure 4: Book covers, from left to right: "Didactics and life" (1968); "Learning and Development" (1975a); and "Conversations with Teachers" (1975b).



Source: <https://www.nbrkomi.ru/str/id/83/3809>; <https://www.libex.ru/detail/book361041.html>  
<https://sheba.spb.ru/shkola/zankov-1991.htm>

In the work "Didactics and Life" (1968), L. V. Zankov addresses issues that have not yet been analyzed in the field of pedagogy and didactics and that are central to the execution of tasks in the modern school, with a focus on a developmental perspective. His contributions to the work include his understanding of the relationship between learning and development, of the whole and the part in the learning process; of the study task, of the methods to solve it, and of the dependence on the results of these methods. In the book, he also presents the didactic principles that he proposes as guidelines for experiential learning and exposes the experience and results obtained in schools that followed the Zankovian approach.

In "Learning and Development" (1975a), L. V. Zankov deals more fully with all aspects of the study of the problem of learning and development, including the historical, methodological and scientific contents, as well as perspectives for future research. In this book, the author systematically presents his positions regarding the developmental learning method. It should be noted that several members of L. V. Zankov's laboratory participate in this work.

The book "Conversations with Teachers" (1975b) completes the picture of L. V. Zankov's activities and confirms his focus on practice. In the form of conversations between teachers and educators, the author discusses fundamental issues for developmental learning in the Zankov system and produces an important material for teachers, whose focus is on the approach to the system.

These three books were collected and published in 1990 in "Selected Pedagogical Works".

Figure 5: Cover of the book "Selected Pedagogical Works" (1990).



Source: <https://www.nbrkomi.ru/str/id/83/380>

The book, organized by the Academy of Pedagogical Science of the USSR, includes "Didactics and Life", "*Learning and Development*" and "Conversation between Teachers". In essence, it addresses the principles and methodological guidelines defended by the system; the objective patterns of developmental learning of elementary school students; and experimental and pedagogical research with important impacts on the field of didactics.

## **Zankov didactic system**

The Zankovian didactic system was the result of intense experimental activity carried out in Soviet schools by its precursor L. V. Zankov and by several interdisciplinary groups of psychologists, methodologists, didacts, and teachers who dedicated themselves to this approach. The studies carried out allowed the analysis of the learning factors that impact on development, particularly considering the interaction of words and the use of visual means (ZANKOV, 1989; 1991) during the school learning process.

The L.V. Zankov system is simultaneously a didactic, methodological and practical proposal. It was inaugurated experimentally in 1957 and introduced in Russian mass schools in 1995 and 1996 as a state system because it was in line with the principles of humanistic education and the all-round development of the child established by the Russian Education Law.

The system assumes as its objectives the learning focused on the general development of the child, understood in its cognitive, affective and volitional dimensions; as well as training for the acquisition of knowledge, skills and habits. The focus on the overall development of personality reveals the system approach that presumes a type of education that is not restricted to the acquisition of knowledge, skills, and abilities. It is student-centered learning (L. V. ZANKOV SYSTEM, 2006), which allows each child to perceive himself in his or her individuality.

Although its purpose is what is called holistic development (mind, will and feelings), through the assimilation of knowledge, skills and habits, it also considers the physical development and health of the child. It is this vision of integral development that guides the type of learning that characterizes the Zankov system, all components are considered in equal relevance because the absence of any one influences the formation of the personality in a path different from what is intended as integral development.

The general development of the child cannot be directed at the particular components (memory, imagination, attention, etc.), but at the psyche as a whole.

This implies educating the child's desire for independent learning activities, and not being tied to the acquisition of knowledge and skills transmitted by the teacher.

The development of each individual student, of his/her personality, ends up constituting an important characteristic of the system because it does not focus on the standardization and leveling of the class of students. The work implies that the individuality, the personality characteristics, of the students are revealed during the learning process. In this way, there is no discrimination between strong and weak students; first, because everyone is different and, second, because each one has strong aspects that can be developed in appropriate learning conditions (NATIONAL LIBRARY OF THE REPUBLIC OF KOMI, 2020). Finally, another feature of the Zankov system is the guarantee that the teacher, during classes, maintains good relationships and establishes bonds of trust, loaded with positive emotions with the students.

In summary, among its *purposes*, the Zankov system provides that the student: (1) develops in different dimensions (mind, will, feelings, moral ideas and formation of the need to learn); (2) feel joy for free intellectual work, be creative and communicative; (3) develop independence, confidence, and responsibility; and (4) have a desire for cooperation.

This work is carried out under the premise that some conditions are necessary for *developmental learning*:

- (1) intellectual curiosity (important for students to be in a state of alert, so classes need to start with an element of surprise;
- (2) the encouraging and nurturing environment (in order for curiosity to be piqued, the child needs to feel comfortable. Self-respect and self-confidence are "gateways" to exposing ideas and solving problems); and
- (3) the creation of opportunities to make choices (the development of a sense of shared responsibility is important for the student to recognize himself as a thinking and creative member of society). (GUSEVA, 2017).

Developmental learning in the Zankovian approach provides for the formation of concepts and the development of skills and habits, so that students are able to find and analyze information, communicate orally and in writing, prove



their own point of view, discuss similar and opposing points of view, and draw independent conclusions. This includes the development of capacities such as: observation, perception, analysis, synthesis, comparison, generalization, abstract thinking, and practical actions.

For this development, the Zankov system is organized based on five *didactic principles* elaborated as a result of the experimental work carried out: (1) learning with a high level of difficulty; (2) the main role of theoretical knowledge; (3) advance at an accelerated pace in the study of the planned material; (4) students' awareness of the learning process; and (5) development of the entire class of students, including the weakest (ZANKOV, 1968; 1990; 2017; NECHAEVA; ROSHCHIN, 2006; GUSEVA, 2017; GUSEVA; SOLOMONOVICH, 2017; AQUINO, 2013; 2017; FEROLA; LONGAREZI, 2021).

The first of these, learning with a high level of difficulty, is considered the cardinal principle, decisive for the learning development process because "[...] it provokes peculiar processes of the student's psychic activity with regard to the mastery of the study material." ZANKOV, 2017, p. 175). Learning should generate questions that the child can solve with the help of the teacher. It is believed that the more difficult the assignments, the greater the interest in research and the broader the horizons of the students become.

The high level of difficulty is linked to a measure of difficulty, which implies a complexification of the didactic material and its organization in a degree of difficulty that puts the students in a situation to be overcome. However, in order for the material not to become unintelligible, and therefore weak for the development process, the increase in difficulty in the task to be performed needs to consider the student's zone of possibility.

The second, the main role of theoretical knowledge, consists in the clear position that, although empirical thinking has its relevance, the school needs to emphasize scientific concepts, because skills are formed under another quality when formed mediated by this type of knowledge.

The third principle, advancing at an accelerated pace, has an auxiliary function in relation to the principle of the high level of difficulty, in the

constant advancement that it ensures, keeping the student in a state of alert and increasingly challenged to solve new problems. It means enriching learning with new and diverse knowledge, without resorting to repetition. It demands a permanent advancement, such that the student's thinking is constantly challenged.

The fourth, awareness of the learning process on the part of students, comprises a conscious attitude on the part of students towards learning. It implies mastering the subject at the level of awareness of this content, can consciously generalize in the resolution of practical problems. In this way, "[...] the process of mastering knowledge and skills, to a certain extent, becomes an object of consciousness" (ZANKOV, 1968, p. 41). This principle refers to the student's self-awareness about his/her development during the learning process and is fundamental because it implies intellectual operations, such as: analysis, comparison, synthesis, generalization and elaboration of conclusions. L. V. Zankov argues for the need for self-regulation of the learning process.

The fifth and final principle, the development of the whole class, is guided by "[...] genuine socialist humanism, which [...] demands giving as much as possible in education and development to all, not just the elite." (ZANKOV, 1968, p. 42). This requires, obviously, a systematic work of the teacher so that he is attentive to the differences between students with different knowledge, skills and development processes that "[...] They need to learn together, without segregation because the teacher takes advantage of the diverse contributions to promote the development of each one." (ZANKOV, 2017, p. 176).

As for the *method* advocated by L. V. Zankov, it is based on: (1) the formation of collectives; (2) the friendly relationship between teachers and students; (3) the focus on students' independent thinking; and (4) the active role of students in the learning process (ZANKOV, 1975 [1984]; FEROLA, 2019; LONGAREZI, 2020; FEROLA; LONGAREZI, 2021).

Taking into account these aspects that support the method adopted in the system, the *methodological proposal* includes:

- (1) multilateralism (focus on psychic development and not on the mere acquisition of knowledge and habits);
- (2) process character (which ensures the mastery of a content from the change from one level to another);
- (3) collisions (confrontation between the knowledge already acquired and the new content; the incomprehensible); and
- (4) variability (variation of tasks, procedures, etc., to maintain the condition of novelty and challenge). (ZANKOV, 1975 [1984]; NECHAEVA; ROSHCHINA, 2006; FEROLA, 2019; LONGAREZI, 2020; FEROLA; LONGAREZI, 2021).

The *class*, in turn, obviously contemplates the particularities of the method and the methodological proposal, as presented, and is organized based on a movement that goes from the complex to the simple, respecting the following characteristics:

- (1) interdisciplinarity (it is necessary that the program encourages the interdisciplinary treatment of school subjects);
- (2) exponential presentation of the subject (the simple concepts, worked on initially, are gradually revised, based on increasingly abstract issues and dealt with in a new context. The lesson needs to provide for an extension of the understanding of the content to a higher level of generalization or abstraction.);
- (3) use of an element of incongruity or dissonance (incites comparisons and analysis of dissonant aspects, provokes thought, and allows the student to develop a deeper understanding of the concept; which stimulates questioning, inquiry, criticality, and the ability to creatively solve problems.); and
- (4) inclusion or incorporation (corresponds to the adequacy of the classes to the needs of the students. (GUSEVA, 2017).

All the pedagogical work carried out in the context of the system comprises a didactic movement based on an intense communicative process in which information is not presented ready for the students. The teacher asks seemingly unsolvable questions. The students elaborate answers based on the discussion that takes place in the context of the class and the set of questions that are successively and gradually introduced by the teacher. Discussions are

encouraged from which students argue and defend points of view. Error is not considered an instrument of coercion or classification. The important thing is, through discussion and the incursion of new questions, to enable students to become aware of the error and seek other solutions. This enables the student to think quickly and powerfully, leads them to think creatively and find solutions on their own.

Figure 6: Zankovian Classroom



Source: <https://autogear.ru/article/222/705/leonid-vladimirovich-zankov-sistema-razvivayuschego-obucheniya/>

In this way, the class provides for the intensive independent activity of the students, the use of collective research, based on observation, comparison, grouping, classification, elucidation of patterns and the independent formulation of conclusions.

All the pedagogical work has the support of curriculum programs, textbooks, manuals for teachers, lesson plans and various information with guidelines for the study of the system and its implementation with a focus on the guidelines of the daily professional work that were elaborated as a result of the intense experimental activity carried out.

The *didactic and methodological set* produced in the context of the Zankov system was developed according to the main fundamentals of developmental learning elaborated experimentally and complied with the standard of current public policies, according to the guidelines of the Russian Ministry of Education and Sciences. The textbooks were even submitted to a review by the Federal Council of Textbooks; which resulted in its inclusion among those recommended and approved by the competent bodies.

The teaching materials comprise books for all school subjects, such as: (1) "Learning to read and write. ABCs". Authors: N. V. Nechaeva and K. S. Beloruset; (2) "Sketchbook" Author: N. V. Nechaeva; (3) "Russian language". Authors: A. V. Polyakova and N. V. Nechaeva; (4) "Literary reading." Authors: V. Y. Sviridova and V. A. Lazareva; (5) "Mathematics" (1st grade). Authors: I. I. Arginskaya, E. P. Benenson and L. S. Itina; (6) "Mathematics" (2nd and 4th grades). Authors: I. I. Arginskaya, E. I. Ivanovskaya and S. N. Kormishina; (7) "The world around us." Authors: N. Ya. Dmitrieva and A. N. Kazakov; (8) "Art." Author: S. G. Ashikova; (9) "Technology". Authors: N. A. Tsyruk and T. N. Prosnyakova; and (10) "Music". Author G. S. Rigina (FONDECO, 2022).

Figure 7: Textbooks of the Zankov System



Source: <https://autogear.ru/article/222/705/leonid-vladimirovich-zankov-sistema-razvivayuschego-obucheniya/>

From the point of view of their methodological proposition, textbooks were designed not only to solve specific problems, but also to explain the very principle of learning. For this reason, the exercises contain additional questions, such as, "solve the problem in a different way" or "how will the answer change if..." (FOXFORD, 2021).

In addition, since the emotional factor is considered fundamental to the child's learning and development of intellectual, moral, and creative skills, the tasks are formulated in such a way as to encourage students to explore. Therefore, they are designed with the aim of surprising students and, consequently, allowing them to be emotionally involved, with the necessary impetus for learning to occur.

Finally, the didactic material followed the general guidelines of the system that provide for the broad training of students, with tasks that prioritize the intersection between different school subjects. In this way, the solution of a mathematical problem includes, for example, simultaneous knowledge of arithmetic, geometry and logic; one of natural sciences, contents on nature, culture and history of society; and one on literature, knowledge of music and fine arts. This maintains an important interdisciplinary approach that is present in training through the Zankovian system in which extracurricular activities are planned, with visits to theaters, museums, libraries, etc.

From this perspective, *the teacher* assumes an important *role* because he leads the process of inquiry and discussion that allows the student to answer questions and make qualitative leaps necessary for learning and development. It is up to the teacher to "[...] direct students' attention to the patterns and connections evident on the subject and ask them to deduce and explain the nature of these relationships." (GUSEVA, 2017, p. 231). This requires you to be attentive, sensitive, and know how to take advantage of the strengths of each student. In this way, it leaves "[...] from restricting himself to the position of instructor and becoming a skilled guide to his students" (GUSEVA, 2017, p. 230). The teacher is a collaborator who shares responsibilities and credits with the class of students.

Developmental learning in the Zankovian model also implies the participation of the *family*. In school, the teacher occupies the place of the collaborator and guide of the students, with questions that provoke and instigate them to solve problems. At home, this task will have to be carried out by the family.

In summary, the Zankov didactic system establishes conditions for developmental learning to occur; brings together a set of objectives, principles, methods, methodological guidelines and characteristics for the organization of the class; defines the role of the teacher and the family; and provides a set of didactic materials that corroborate the Zankovian didactic proposal.

### **Final thoughts**

The first experimental activities that gave rise to the system. Zankov dates back to 1957 and remained intense until the death of L. V. Zankov in 1977. Its official recognition comes almost 20 years later, in 1996, and its exclusion among the state-recommended systems occurs in 2014.

According to the Russian Ministry of Education and Science, the Zankov system features: (1) a high level of preparation of students who are distinguished by high academic performance; (2) development of logical reasoning, which is constituted by the method that leads the student to reason, construct hypotheses and find creative solutions; (3) development of communication skills, since the discussion perspective that accompanies the method creates the conditions for students to learn to formulate their ideas and listen to others; and (4) creative development prioritized in tasks that include creative improvisation and are drivers of creative thinking on the part of the student.

Despite this understanding, the Zankov system was excluded from the official government program on the grounds of the Ministry of Education and Science that this didactic approach implies: (1) an extreme dedication of the student, with a maximum effort, representing a very high load for the students; (2) an accelerated pace that imposes the necessary presence of students in activities, since absence from a class can result in serious knowledge gaps; (3) a high requirement for teachers who need to have flexible thinking, develop empathy, and

be able to pay attention to each particular student; (4) difficulties in doing homework because textbook assignments are a challenge for both students and the whole family; and (5) discontinuity of the program which, although designed for the initial grades of the elementary level, has no succession proposals (FOXFORD, 2021). Although the Zankov Scientific and Methodological Center began to develop in the 2000s a program for subsequent school years, this work has not been completed, and those who study within the Zankov system in the early years are unable to continue within this educational approach.

This led to the exclusion of the system in 2014 and, as a consequence, the removal of the system's textbooks from the list of those recommended by the ministry. The only one that remained was the manual of fine arts, considered pertinent to the Educational Norm of the Federal State.

In the period of approximately 18 years of validity as an official education system in Russia (from 1996 to 2014), it served 13% of primary school students in the country. This demonstrates the potency and prominence that the system has had in the official Russian school context. There are data from methodologists confirming that one in four students enrolled in Russian elementary schools studies according to the L.V. Zankov system; which represents a percentage of 15% to 40% of school-age students in the Russian Federation as a whole and 30% of students in the city of Moscow in particular. (NATIONAL LIBRARY OF THE REPUBLIC OF KOMI, 2020).

However, before it was officially taken over by the Ministry of Education and Science in the country, the system had been in place for 40 years. In its first 20 years (from 1957 to 1977) with the activities of the Learning and Development Laboratory, coordinated by L. V. Zankov, and with the numerous experimental classes that were implemented in approximately 52 territories, with more than 1000 classes of students from different locations, among others, in Abakan, Baku, Frunza, Gorki, Kalinin, Kazan, Kharkiv, Kyiv, Krasnoyarsk, Leningrad, Novosibirsk, Omsk, Penza, Ryazan, Riga, Tyumen, Tula, Vologda and Vorkuta (ZANKOV, 1990). In the almost 20 years following the closure of the experimental classes and laboratory activities (of 1978 to



1996), the period after the death of L. V. Zankov and before the official recognition of the system, several schools and teachers kept active the educational processes guided by the Zankovian method. In fact, the vigor and permanence of these activities was an important element, added to the experimental results acquired by L. V. Zankov's laboratory and its developments to other locations, which even led to its official recognition.

Currently, almost 10 years after it was excluded from the recommendations by the state (from 2014 to 2023), the system is no longer developed in public schools; remains active only in private schools or being applied by adept teachers to the Zankov developmental learning program. Under these conditions, the system is still implemented today in schools in Russia, Belarus, Ukraine, Kazakhstan, Moldova, the United States, Israel and Australia. The Zankov Scientific and Methodological Center, established in 1993, continues to develop the program for the secondary education levels and its adherents insist with the Ministry of Education and Science for the return of the system in official government documents.

In Brazil, studies with this focus are more recent, and the literature that allows access to this approach, in Portuguese, is still very restricted. This system has been the object of more effective research in the country, especially in the last decade, which makes this dossier an important study material.

Organized with the participation of Brazilian, Cuban and Russian authors who have dedicated themselves to theoretical and experimental research guided by this didactic approach, the dossier brings together, in addition to this presentation that summarizes the system in its sixty-six-year trajectory of experimentation, implementation and recognition, a total of six articles:

- (1) "Theoretical and Methodological Assumptions of the Zankovian Didactic System", by Djalma Gonçalves Pereira, Marilene Ribeiro Resende and Orlando Fernández Aquino;
- (2) "Zankovian System of Education: Development, Characteristics and Psychological Foundation", by Silas Alberto Garcia, Made Júnior Miranda and Euzébia Oliveira Noletto;

- (3) "Education-learning-development and the research method in the conception of L. V. Zankov", by Andréa Maturano Longarezi and Bianca Carvalho Ferola;
- (4) "Set of psychological and pedagogical conditions of proper self-assessment formation at a primary school age", de Vitushkina Emma Viktorovna e Kozko Natalia Alexandrovna;
- (5) "Learning and its relation to human development in primary classes: contributions of the Zankov's System", de Liudmila Grigorievna Guseva e Iury Kesley Marques de Oliveira Martins; e
- (6) "The process of *obutchénie* of equations of the 2nd degree based on the Zankovian didactic system for the ethical and moral formation of students", by Lóren Grace Kellen Maia Amorim, Fabiana Fiorezi de Marco and Mariana Martins Pereira.

The themes dealt with allow us to understand the fundamentals, characteristics, concepts, research method and practical developments of the Zankov system for developmental learning treated both in Russian and Brazilian contexts, with documentary and bibliographic sources unpublished for the Portuguese language; representing an invaluable contribution to future studies that take as a reference this important Soviet developmental alternative didactic system.

## Sistema didáctico Zankov: sesenta y seis años de trayectoria experimental (1957-2023)

### RESUMEN

Este texto se propone enfatizar los aspectos que subyacen en el sistema Zankov desde un punto de vista didáctico y metodológico. Para ello, en un primer momento, destaca la vida y obra de su precursor, Leonid Vladimirovich Zankov, centrándose en el pensamiento del autor que sustenta la intensa actividad experimental realizada en las escuelas soviéticas, en el período de 1957 a 1977, presenta un resumen de los principales aspectos que caracterizan al sistema, tales como: (1) sus fines; (2) las condiciones necesarias para el aprendizaje; (3) principios didácticos; (4) el método y propuesta metodológica; (5) las características de la clase zankoviana; (6) materiales didácticos; y (7) el papel que juega el maestro y la familia en la escuela zankoviana. El proceso de experimentación, implementación y reconocimiento oficial del sistema recorre todo el texto, con el objetivo de recorrer, aunque de forma sintética e introductoria, los sesenta y seis años de historia del sistema didáctico Zankov (1957 a 2023), que permite que el lector tenga una visión amplia e integral de la propuesta que orienta esta perspectiva didáctica del aprendizaje desarrolladora; así como introducir el contexto teórico, conceptual y metodológico a partir del cual se sitúan los demás artículos que componen el dossier del Sistema Didáctico Zankov.

**Palabras clave:** Sistema Didáctico Zankov. Leonid Vladimirovich Zankov. Aprendizaje desarrolladora. Didáctica desarrolladora.

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