

Tatiana Chernigovskaya's approaches to language development and functional literacy.

Aziza Ikhtiyorovna Mardonova

Student of the Faculty of Languages,
Samarkand State Uzbek-Finnish Pedagogical Institute

azizamardonova10@gmail.com

Scientific Advisor: **Gulrukh Burkhanova**

Abstract: The article explores the scientific and popular approaches of Tatyana Vladimirovna Chernigovskaya to language development and the formation of functional literacy. Special attention is given to the interdisciplinary nature of her research, which combines neurolinguistics, cognitive science, and psycholinguistics. The paper analyzes Chernigovskaya's views on the role of language in thinking, the importance of reading and critical thinking in shaping an individual's intellectual potential. Her recommendations for developing functional literacy in the context of digitalization and information overload are also discussed. The significance of an individual approach to education and the need to develop stable cognitive skills from an early age are emphasized.

Keywords: language development, functional literacy, neurolinguistics, cognitive science, critical thinking, reading, cognitive skills, psycholinguistics, digitalization of education.

Tatiana Vladimirovna Chernigovskaya (born February 7, 1947, Leningrad, RSFSR, USSR) is a Soviet and Russian scientist specializing in neuroscience, psycholinguistics, and the theory of consciousness. Since 2020, she has been the Director of the Institute of Cognitive Studies at Saint Petersburg State University. She is an Honored Worker of Higher Education and an Honored Scientist of the Russian Federation (2010). In 2023, she became an academician of the Russian Academy of Education. She holds a Doctorate in Biological Sciences and is a professor. She is also a foreign member of the Norwegian Academy of Sciences.

Tatiana Chernigovskaya proposes an original and interdisciplinary approach to understanding language development and the formation of functional literacy. In her speeches and scientific publications, she emphasizes that language is not merely a means of communication but a fundamental tool of thought. According to her, "we do not think with the brain, but with language," which means that poor language leads to poor thinking. One of the key elements of her approach is the assertion that functional literacy is not simply the ability to read and write, but the ability to understand, analyze, critically evaluate information, and apply knowledge in non-standard situations. Chernigovskaya stresses that without the skills of deep text analysis and forming reasoned judgments, it is impossible to be truly literate in the 21st century.

Chernigovskaya builds her approach at the intersection of several sciences—neurophysiology, linguistics, psychology, philosophy, and pedagogy. She is convinced that language is not merely a cultural code but a biologically based cognitive tool whose development is directly linked to brain development. She frequently cites neuroscientific data confirming that active language use affects the prefrontal cortex, the area responsible for planning, attention, and decision-making.

Chernigovskaya also emphasizes neuroplasticity—the brain’s ability to change as a result of learning. Language practice, in her opinion, is a powerful stimulus for cognitive development. That is why she insists on the importance of early language education, which should not be limited to rote memorization of grammar but should include meaningful work with texts, discussions, creative writing, and oral speech.

According to Chernigovskaya, it is impossible to be literate in the modern world without the ability to distinguish facts from opinions, recognize manipulations, interpret texts considering context, and ask clarifying questions. This is the core of functional literacy, which she views not as a skill but as a system of thinking.

She criticizes existing school approaches where teaching is reduced to reproductive activities, and literacy is limited to formal knowledge of spelling and punctuation. “Teaching children to put commas is important,” she says, “but even more important is teaching them to ask questions.”

The formation of such literacy requires an interdisciplinary approach and active involvement of the student in the process of reflection, analysis, and comparison of information. She believes that only through conscious work with texts of different types—scientific, journalistic, literary—can a truly “literate” person be developed.

Chernigovskaya repeatedly emphasizes that a teacher in the 21st century is not a transmitter of knowledge but a navigator in the world of information. Their task is to teach the child to think, search, doubt, and discuss. In this context, the educator must possess a high level of functional literacy and develop skills in critical thinking, media literacy, and interpretation.

Tatiana Chernigovskaya believes that language is not just a means of communication but a fundamental tool for thinking and understanding the world. In her research, she shows that language development is closely connected with the development of cognitive brain functions. The better a person masters language, the more effectively they can structure their thoughts, analyze information, and make decisions.

Chernigovskaya pays special attention to how functional literacy is formed—the ability to use language not only for reading and writing but also to solve practical life tasks, such as understanding instructions, conducting dialogues, and critically perceiving information. She emphasizes that modern education should go beyond mechanical memorization of rules and words, developing students’ ability to apply knowledge in real situations.

Her work also highlights the importance of emotional and social components in language learning. Language develops most effectively in live communication, where emotional involvement and motivation are present. This helps a child or adult not only memorize words but also deeply assimilate the meaning and structure of speech.

In the context of modern technologies, Chernigovskaya points out that the digital environment changes the nature of literacy. New types of literacy emerge—media literacy, information literacy—that require new skills of critical thinking and the ability to navigate an enormous flow of data. Therefore, the development of functional literacy today is linked to preparing for life in a digital society.

Thus, Tatiana Chernigovskaya’s approaches to language development and functional literacy are comprehensive and interdisciplinary. They consider the biological foundations of language, psychological processes, social and cultural factors, as well as the modern challenges of the information age. Her ideas find practical application in pedagogy, helping to create programs that develop not only language skills but also thinking, communication, and critical perception of the world.

Tatiana Chernigovskaya also stresses the importance of early language exposure and the quality of linguistic environment in shaping a person's communicative abilities. She argues that language acquisition is most effective when children interact in rich, meaningful contexts that stimulate curiosity and cognitive engagement. This interaction helps build neural connections that support complex language use later in life.

Moreover, she highlights that language development is not uniform for all individuals. Each person's brain has unique characteristics, and factors such as genetics, social environment, and educational opportunities influence how language skills evolve. This understanding encourages personalized approaches in teaching and learning, recognizing that one-size-fits-all methods are less effective.

Chernigovskaya's research also explores the role of bilingualism and multilingualism. She points out that learning multiple languages can enhance cognitive flexibility and metalinguistic awareness—understanding how language works in general. This broadens the learner's ability to navigate diverse linguistic and cultural contexts, which is increasingly important in a globalized world.

In educational practice, Chernigovskaya advocates for integrating language learning with other cognitive skills such as problem-solving, creativity, and critical thinking. This holistic approach prepares learners not only to communicate but to analyze, innovate, and participate actively in society.

She also speaks about the negative effects of overloading children and the pace of modern education: "If a child does homework from morning till night and has no time to reflect, they are not learning, they are surviving." An educational environment is needed that allows the brain to rest and process acquired knowledge, rather than just accumulate it.

Moreover, she stresses the importance of an individual approach in education: teaching should consider the thinking characteristics of each child. It is necessary to develop not only memory but also creativity, attention, abstract and logical thinking in students.

Thus, Tatiana Chernigovskaya's approach is not focused on mechanical accumulation of knowledge but on forming a stable cognitive and linguistic foundation that enables a person to adapt, reflect, and make meaningful decisions in a complex informational reality.

Bibliography

1. Vygotsky L. S. Thought and Language. — Moscow: Labirint, 2020. — 352 p.
2. Luria A. R. Language and Consciousness. — Moscow: Academic Project, 2002. — 224 p.
3. Postman N. The Disappearance of Childhood. — Moscow: New Literary Review, 2008. — 240 p.
4. Chernigovskaya T. V. Trapped by Language: How Language Controls Consciousness. — Moscow: Alpina Non-Fiction, 2021. — 256 p.
5. Chernigovskaya T. V. Why Does the Brain Need Language? // Science and Life. — 2015. — No. 6. — Pp. 14–21.
6. Chernigovskaya T. V. Brain and Language: The Path to Thought // Issues of Psycholinguistics. — 2012. — No. 2 (12). — Pp. 7–15.
7. Chernigovskaya T. V. Functional Literacy in the Era of Digitalization // Education and Science. — 2019. — No. 4. — Pp. 12–19.
8. Chernigovskaya T. V. Man, Text, and Brain: What Do We Know About Thinking? — St. Petersburg: Piter, 2017. — 192 p.