



**V.F. SHATALOV'S TEACHING METHODS AND THE POSSIBILITIES OF THEIR
APPLICATION IN MEDICAL DISCIPLINES**

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ANNOTATION

This article is dedicated to the teaching methods of V.F. Shatalov and the possibilities of its application in medical disciplines

Key words: principles of Collaborative Pedagogy, organizational and methodological system, verbal-logical, associative, mnemonic, innovative teacher, modular learning, brevity.

When we speak of "Shatalov's methodology," we mean a universal psychological, pedagogical, organizational, and methodological system applicable to the study of any subject (mathematics, physics, biology, history, geography, native and foreign languages). Each subject in Shatalov's methodology has its own specific teaching methods. But in general, the entire organizational and methodological system has the following structure.

Subsystems of the organizational and methodological system:

- 1) Perspective. Advancement. A qualitatively new approach to the prospective and advanced structuring and planning of programmatic educational material.
- 2) Reference signals. Large-scale introduction of programmatic topics using reference signals as the basis for intensifying the educational process.
- 3) Knowledge Inspection and Control. Continuous monitoring and correction of students' academic achievements based on continuous feedback and the principle of open perspectives.
- 4) Co-Management. Organizing co-management of the educational process based on the principles of Collaborative Pedagogy. Parental participation in monitoring and correcting students' academic achievements.
- 5) Repetition. Continuous, variable repetition of the studied material at the reproductive, productive, and creative levels.

6) Free Homework.

7) Creating a Psychologically Comfortable Learning Environment.

Now let's examine some of the subsystems in more detail: 1) The entire organizational and methodological system of V.F. Shatalov is a system for intensifying the educational process. This innovative teacher and his followers, relying on modern psychological and pedagogical research and their own extensive experimental experience, have proven that teaching according to Shatalov's system allows for a shorter period of schooling. V.F. Shatalov repeatedly emphasizes that, according to modern research, brain cell development in children generally ends by age 11. Consequently, modern curricula, with their focus on age-specific learning, undersaturate schoolchildren!

2) According to V.F. Shatalov, the minimal unit of support is the reference signal – an "associative symbol replacing a certain semantic meaning; it is capable of instantly recalling previously known and understood information." One of the most important functions of reference signals is to facilitate the comprehension of new information and to consolidate it through the close interaction of various types of memory: visual, figurative, verbal-logical, associative, mnemonic, and



motor. When working with reference notes, both hemispheres (left and right) work simultaneously, meaning that the mechanisms of abstract and concrete figurative thinking operate synchronously.

3) The system of working with reference signals allows for solving knowledge assessment problems. In V.F. Shatalov's method, each student is fully questioned on each topic, and, crucially, with a minimum of time spent during the lesson. The reference note is always reproduced in written and oral form during the same lesson. Grades for written and oral retrieval of key notes are recorded in a special Academic Achievement Record. This Record provides a subject-specific record of academic achievement. The teacher keeps the summary Record; each student receives a copy with their name on it, where they record their grades. Let's pay attention to a crucial detail: the secrecy of the class register is eliminated. Students know the essential rules for recording academic achievement: to receive a final thematic grade, they must receive grades for all types of work on the topic reflected in the Record; a grade of "2" does not exist in our system. If a student fails a particular type of work, a blank cell remains in the Record. A blank cell also remains if the student was absent from class for one reason or another. Such a "blank" is a signal that there is a gap in the student's knowledge. Missing classes is not a reason to avoid completing all types of work on the topic. It is the Committee's job to help students close these gaps. All grades below "5" (i.e. "4" and "3") in the Statement are entered in pencil, and each pencil grade can be corrected to a higher one by re-submitting this type of work in the co-management system.

The essence of the inspection and control subsystem boils down to simple truths: students aren't graded for a particular type of work; rather, they receive a grade and decide whether to accept the grade they received or improve upon it.

6) Our methodology doesn't use the term "homework." It does use the term "homework." The amount of homework (number of exercises) is determined for the year and presented to students at the beginning of the school year in the form of thematic worksheets. A worksheet is a set of homework exercises on a specific topic. To test a student's independence in homework, after the student has completed all the assignments, a so-called relay work session is conducted. Selected, diverse, and multi-level tasks are selected from among the homework exercises. Another specific assessment method in Russian language teaching is error correction. When checking homework, errors are not corrected; only appropriate notes are made in the margins. All errors in the notebook are corrected by the student themselves, and then they immediately work on the correction. It is for this work that a special assessment is entered into the Statement.

7) The methodological system created by the innovative teacher is highly humanistic, and at its center are the teacher and student as equal subjects in the educational process.

Viktor Fedorovich Shatalov's method is an intensive learning system based on the use of "reference cues" (compressed outlines), block-based delivery of material, multiple repetitions, and the absence of cues for "strong" and "weak" areas. It effectively visualizes the complexities of interconnectedness, which are important in medicine.

Key principles of the Shatalov Method:

- Reference cues (notes): Visual models that replace long texts with diagrams, symbols, pictures, and graphs that facilitate memorization.
- Block-based delivery of material: Theoretical material is presented in blocks, from the general to the specific.
- Systems: Multiple (sheet-by-sheet) repetition of the material received, ensuring reliable memorization.
- Open knowledge management: Assessment of each student's knowledge using flowcharts.



• Psychological comfort: no fear of answering, the right to make mistakes, and the opportunity to correct them.

Application in medical disciplines:

The Shatalov Method is ideal for disciplines with a large volume of information that require systematic attention:

1. Anatomy and histology: Creation of reference cues for memorizing disorders of organs, systems, nerve pathways, and blood vessels. 2. Pathophysiology and Biochemistry: Constructing flowcharts of disease pathogenesis that describe cause-and-effect relationships (e.g., development mechanisms, the blood coagulation cascade).

3. Pharmacology: Schemes for classifying drugs, their principles of action, and mechanisms of action.

4. Clinical Disciplines: Creating reference signals for diagnostic and treatment algorithms, helping students make quick decisions.

Benefits for medical education:

- Rapid processing of large volumes of information.
- Developing systemic clinical thinking.
- Eliminating "fluff" and focusing on core, vital knowledge.
- Improving long-term memory through the use of visual associations.

The Shatalov method transforms medical education from rote memorization to logical understanding, which is fundamentally important for future medical practice.

The relevance of V.F. Shatalov's developments in the field of modular learning is undeniable and is confirmed by the effective results of their application. Educational models based on traditional approaches don't always take into account students' individual abilities and don't allow for a reliable assessment of their knowledge. In turn, the modular learning method allows teachers to identify each student's potential and provide intensive instruction. This approach is particularly relevant in today's school education environment. The concept developed by V.F. Shatalov exhibits a certain cyclicity, characteristic of the evolution of scientific views. Nevertheless, classical principles reappear over time, and the concept of modular learning is no exception. It seems likely that this method will remain relevant for a long time to come.

A reference cue is a set of associative keywords, symbols, and other thought supports, arranged in a specific manner, replacing a specific semantic meaning. It is capable of instantly recalling previously known and understood information .

A reference cue is a visual construct consisting of reference cues that are structurally interconnected. These cues replace a system of meanings, concepts, and ideas, which are interconnected elements. An important requirement for a reference cue is a precise and understandable transcript

The image of a graphic symbol and its explanation in the context of a specific material allow for the automatic memorization of both the symbol and the material itself. For each fragment of theoretical material, an icon—a reference cue—is created, which explains and memorizes the material. The system for explaining theoretical material is formed by linking and designating reference cues in place of each other.

Next, it is necessary to explain the associations of the signals with the theory itself to ensure full assimilation of the material. The use of vivid, varied, and unusual reference cues creates an engaging and playful learning environment. They stimulate active learning and ensure a holistic, systematic, and meaningful understanding of the basic patterns and concepts of their interrelations.

The main requirements that reference cues must meet are:



Conciseness. A reference cue should contain only a few words. The fewer printed characters, the more attractive the reference cues are to the learner, the less time they spend on self-study, the faster written assignments on signal recall are completed, the higher the grades students receive for these assignments, and the more willing they are to correct their undesirable grades.

Structured. The signal uses links and logical blocks connected by arrows, lines, boundaries, etc. Learning with reference signals develops systemic thinking, distinguishes between the general and the important, and identifies cause-and-effect relationships.

Presence of semantic accents. The most important elements of the reference signal are highlighted with frames, color, unique symbol arrangement, etc. Autonomy. Each of the four or five blocks should be independent, understandable independently of the other blocks of the reference signal.

Associativity and imagery. Clear associations with the reference signal and its elements should emerge and be remembered. The meanings of the developed graphic representations of reference signs should be easily recognizable.

Ease of manual reproduction. Students will be required to reproduce the reference signals discussed in class from memory for assessment.

Color visualization. Memorization of the material is facilitated by engaging visual memory. Some signals can be brightly colored.

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