The Bioscan
AN INTERNATIONAL QUARTERLY JOURNAL OF LIFE SCIENCES
20(4): 711-720, 2025 www.thebioscan.com

DEVELOPING EDUCATIONAL AND INDEPENDENT LEARNING TASKS FOR NEANTOLOGY AS A MEDICAL-PEDAGOGICAL AND METHODOLOGICAL PROBLEM

Anvarova Zilola Qosimovna
Farg'ona jamoat salomatligi, tibbiyot insituyti o'qituvchisi

DOI: 10.63001/tbs.2025.v20.i04.pp711-720

Keywords
Medical teaching, medical knowledge, high quality, medical service, rheumatism (disease), treatment, description, patient, medical procedure/treatment, medical skill, medical education, educational objective, Bicillin, prophylaxis/prevention, incidence (of disease) and recurrence, remission/decline, streptococcal theory, rheumatism.

Received on:

20-09-2025

Accepted on:

08-10-2025

Published on:

25-11-2025

ABSTRACT

In the medical education system, traditional classroom lessons are designed to impart knowledge to students, particularly future medical specialists, to memorize information through educational tasks, and to perform medical analysis of sentences derived from various sources. However, this is increasingly failing to meet the demands of the modern era. Life presents humanity with various problems, and every individual must have the ability to solve them independently. In this context, the technology of problem-based learning has been introduced into medical pedagogy. In problem-based learning, questions and assignments play a crucial role among the educational tasks. The essence of problem-based teaching is that the medical educator does not deliver knowledge in a ready-made form; instead, the medical educator poses problematic tasks in the form of a question or an assignment, prompting the lesson organizer to search for ways and means to solve them. This is also, of course, carried out through questions and assignments. Exercises, on the other hand, mean the repeated performance of a mental or practical action for the purpose of mastering it or improving its quality. Exercises also participate in this process in their own way.

The use of educational tasks in medical education textbooks and manuals is not systematic; textbooks and manuals created in recent years have begun to be developed based on educational tasks. For instance, the "Children's Diseases" textbook published by Daminov T.O., Khalmatova B.T., and Boboeva O.R. includes questions and assignments at the end of the topics [24]. Educational tasks are almost non-existent in the educational literature created for medical higher education until 2020. For example, in the manual "Syndromic Diagnostics in Pediatrics" by Khalmatova B.T. and Bobomuratov T.A., published in 2010, no educational tasks are given at all.

In the "Neonatology" textbook created by Abdurakhmonova L.A. and Anvarova Z.Q. in 2024, attention was paid to the level of students' independence in performing educational tasks within the curriculum: specific tasks were given to increase medical knowledge and information; exercises and assignments that teach the application of medical knowledge in various medical situations are equally used.

There is a need to improve educational tasks in medical education, and the task will

be relevant to modern requirements and effective if the following didactic-pedagogical requirements are met: the possibility of developing several medical skills while performing one educational task; students' conscious approach to performing educational tasks and adherence to didactic sequence in their execution; the ability to communicate correctly with artificial intelligence to find educational tasks from modern information sources; and the productive use of medical terminology from educational dictionaries within the scope of a medical topic.

The improved educational tasks should conform to the following basic psychological and pedagogical goals of problem-based teaching: developing students' thinking and abilities, and developing their creative abilities; students' assimilation of medical knowledge and skills acquired during active search and independent problem-solving processes, making this knowledge and these skills more solid compared to traditional lessons; and fostering the active, creative personality of a student who can see, set, and solve non-standard problems.

Problem-based learning technology is of great importance in developing the skills for working with children's diseases, which has begun to be actively used in medical education. Any medical analysis can be turned into a problematic process through educational tasks. In this case, it is enough to pose the question or assignment correctly. The stages of solving the problem, checking the obtained results, comparing them with the original hypothesis, systematizing and generalizing the acquired medical knowledge and skills are considered important here. Successful problem learning ensures that the participation of educational tasks in performing medical education assignments is unique: providing motivation through sufficient questions or preparatory tasks to arouse interest in the content of the problem; ensuring the expediency of working with medical problems that arise at each stage across every course; the importance of the task and question posed in solving the problem; and establishing friendly communication between the medical educator and the student when all ideas and hypotheses expressed by the students are treated with attention and encouragement. All this depends on the content of the educational tasks, the basis of which is formed by the type of cognitive activity. In this regard, the approaches of I. Ya. Lerner [94] and N. M. Skatkin [122] are well-known and famous.

The type of cognitive activity is the independent level of cognitive activity that students achieve by working according to the educational schedule proposed by the student. This is differentiated by the following classification methods: explanatory-illustrative (information-receptive); reproductive; problem presentation; partially-exploratory (surgical operation); and research. The essence of the information-receptive method is expressed in the following characteristics: medical knowledge is offered to students in a "ready" form; the medical educator organizes the perception of this knowledge in various ways; students perceive (receive) and understand the knowledge, and fix it in their memory. All information sources (visual aids, etc.) are used in reception, and the logic of presentation can be developed inductively and deductively. The medical educator's management activity is limited to organizing the perception of knowledge. The tool the medical educator uses to encourage students to acquire knowledge and think, and the measure for monitoring their activity and assimilation, are the educational tasks.

The reproductive method of teaching is also used in the context of traditional neonatology education. It has the following characteristics: knowledge is offered to students in a "ready" form; the medical educator not only delivers the knowledge but also explains it; students consciously assimilate, understand, and remember the medical knowledge. The criterion for assimilation is the correct reproduction of

knowledge; the necessary strength of assimilation is ensured through repetition of knowledge. For example: Exercise 1. Memorize the words you wrote in your vocabulary notebook with their meanings in the group. In this sense, questions and assignments are also specialized in memorization and repetitive recall. Problem-based learning technology, however, ensures a transition from execution to creative activity. Today, New Uzbekistan needs not just medical specialists, but medical creative thinkers.

At a certain stage of problem-based learning, students cannot solve problems related to medical situations on their own, and therefore the medical educator shows the way to research the problem and outline its solution from beginning to end. Although students in this method are observers, not participants, they learn to solve the difficulties of acquiring knowledge.

The partially-exploratory (heuristic) method of teaching is also used in neonatology education, the essence of which is expressed in the following characteristics: medical knowledge is not offered to students in a "ready" form; they must derive it independently; the medical educator does not organize the transmission or presentation of knowledge, but rather the search for new knowledge through various means; under the guidance of the medical educator, students independently reason, solve cognitive problems that arise, create and solve problematic situations, analyze, draw conclusions, and consequently acquire conscious, solid knowledge. Educational tasks should also constitute the main part of higher medical education textbooks and manuals. Separate courses should be organized on the creation and use of educational tasks in higher medical education. Based on the topic and specialization of the existing academic subjects, educational tasks in higher medical education can be divided into 3 types in terms of content:

1. Educational tasks formulated according to the educational content of Neonatology.
2. Propaedeutics of Children's Diseases (Pediatrics Propaedeutics).
3. Educational tasks for Pediatrics.

In this context, the educational content of "Propaedeutics of Children's Diseases" taught in the Pediatrics specialization and other specialty subjects is meant to teach the fundamentals of Neonatology. In this sense, the educational tasks formulated in this area should serve to develop clinical skills that encourage students to think, compare one idea with another, and articulate a final conclusion. The educational tasks in existing textbooks are designed for memorizing information and then reproducing it: For example, the following educational tasks were used in the "Children's Diseases" textbook authored by Daminov T.A., Kholmatova B.T., and Boboyeva U.R., for the educational direction: 5510100 - General Medicine:

1. Explain the age-related anatomical and physiological characteristics of children based on medical-pedagogical education.
2. What are the types of etiology, pathogenesis, main clinical signs, diagnosis, and differential comparison of children's diseases?
3. How are modern treatment methods, disease prophylaxis, and rehabilitation covered? Explain.
4. What do the knowledge points related to the educational content of Pediatrics consist of, and what are the distinct morphological, physiological, and psychological changes characteristic of each age stage of a child's life? Describe them.
5. How is the teaching of Pediatrics. Neonatology's educational content—communication with healthy and sick newborns and their parents—carried out among students?
6. What does the development of medical knowledge and skills in examining children, reading laboratory analyses according to age, diagnosing diseases

occurring during infancy, providing emergency care, and determining prophylactic measures consist of?

The above educational tasks do not teach the student to work creatively.

In the textbooks authored by Acting Professor Abdurakhmonova L.A. for the bachelor's degree program 5510100 – General Medicine, the teaching methods are based on partially-exploratory (heuristic) and, primarily, research methods, the essence of which is as follows: for instance, under the heading "Control Tasks," the condition of the task prompts the student to engage independently. The exploratory approach has the following characteristics: the medical educator, together with the students, formulates the problem, the solution of which is determined during the lesson; medical knowledge is not shared with the students. Students acquire it independently during the process of studying the problem and compare various versions of the obtained answers. The means to achieve the results are also determined by the students; the teacher's activity involves the operative management of the problem-solving process; the medical education process is distinguished by high intensity, increased interest in teaching, and deeply differentiated acquired knowledge.

Since educational tasks also constitute the main part of medical education textbooks, the issue of textbooks should also be partially addressed. Educational content in medicine is detailed primarily in educational literature (textbooks, reference books, supplementary reading books, atlases, charts, assignments and exercises, problem collections, printed notebooks, and others). The main type of educational literature is the **textbook**—an important source of medical knowledge for future medical specialists and one of the main tools for learning. It reflects the scope of medical knowledge, skills, general medical approaches, and experience in human activity that support the theory and methodology of teaching and develop the essence of the student's personality.

Modern medical higher education textbooks should be both stable and mobile. In accordance with the stability requirements, the textbook should have a solid foundation. Mobility allows for the rapid introduction of new medical knowledge and skills without disrupting the basic design. The textbook's structure includes the full text of the topic (texts of various pedagogical-methodological styles—descriptions and arguments), the main structural component, and auxiliary non-text components (organization and assimilation structure). In this instance, educational tasks perform a major function as the assimilation structure. The textbook should ensure students' conscious and active participation in the educational process and the complete foundation of the educational material. The modern textbook performs the following didactic functions: it encourages and arouses students' enthusiasm for studying the topics; it allows the student to expand knowledge through existing methods of presenting and searching for information and data; it includes the possibility of performing educational tasks to check the course and results of the lesson, self-assessment and correction, as well as the acquisition of necessary skills. In short, modern textbooks should integrate, attract, and manage many information sources in medical education. In this process, educational tasks should be able to connect to the loaded "wagons" of medical dictionaries, audio, video materials, collections of exercises and assignments, tests, visual aids, and electronic resources, and serve as the main tool in their use.

Educational tasks need to be improved to be suitable for modern medical higher education classes and textbooks. This is because insufficient attention is paid to the quality of questions, exercises, and assignments, and their relevance to modern requirements, even in the educational content and textbooks of the "Pediatrics. Neonatology" subjects within the medical higher education system. This situation is one of the reasons leading to the inadequate assimilation of the educational content of

Pediatrics and Neonatology by students—future medical specialists. Observations have shown that skill-forming, repetition-based exercises, trial-based assignments, and questions that teach thinking are not found in the textbooks published in the early years (1950–1960) when the educational content of Pediatrics. Neonatology was first formalized, nor are they present in currently used textbooks. Recommendations of a simple task nature are included under the general term "exercise." In the higher education system, "exercise" and "assignment" are also not differentiated. Students do not practice (exercise) their speech problems. Assignments are specialized in the traditional form of memorizing and reproducing. Questions do not encourage thinking. At this juncture, attention should be paid to the arguments about the essential distinction between the terms "assignment" and "question," and their place and significance in medical pedagogy, as discussed in the manual "Integrated Management of Childhood Illnesses" (UzRSSVG, UNICEF, 2003) and the methodological manual "Providing Inpatient Care to Children" (Order of the Ministry of Health of Uzbekistan No. 225, 2013) [21]. In the textbook "Fundamentals of Care for Healthy and Sick Newborns" by methodologist-scholars Nuritdinova T.T., Inakova B.B., and Abdullayeva M.E., published in 2020, educational tasks are divided into three types among the educational materials, and they are differentiated from each other.

Throughout their pedagogical activities, teachers often confuse the concepts of "exercise," "assignment," and "problem." Doctor of Pedagogical Sciences, Professor G'. Khamrayev agrees with the view that an educational task is "a form of instruction, a certain method of teaching," and while acknowledging that an assignment is a part of an exercise, primarily expressed in the condition of the exercise, and that an assignment represents a narrower concept than an exercise, he presents his own approach in this regard. This approach differs from the scientific conclusions reached in previous scientific analyses of educational tasks, arguing that exercises should be included within the structure of an assignment, rather than the assignment being a part of the exercise, and that the assignment is a larger, broader concept in terms of function than both a question and an exercise.

In our view, too, an assignment encompasses an exercise; assignments guide and test the student, while repetition-based exercises serve to develop habits and skills.

In the medical higher education system, the teaching tools for the subject "Pediatrics. Neonatology" are closely interconnected because they are directly related to clinical skills. As M.E. Akhmedova correctly noted, a different approach is necessary for the terms "exercise" and "assignment." Although the terms "exercise" and "assignment," which are frequently encountered in textbooks and manuals, form a related word group, there is no synonymous relationship between them.

However, based on our observations, we can definitively state that in a number of textbooks and manuals used for many years, confusion exists in the presentation of the concepts of a **problem (masala)** and an **assignment (topshiriq)**, which are closely related to these terms, and instances of one being used in place of the other can be seen: If we refer to L.A. Abdurakhmonova's textbook, we focused primarily on the problems (masala) and subjected them to analysis.

Problem 1. A 10-year-old child. Suffered from follicular tonsillitis 3 weeks ago. Treated on an outpatient basis. During examination, swelling in the facial area and knees, and pallor of the skin and mucous membranes are noted. Arterial pressure is 130/90. The boundary of the relative cardiac dullness is expanded. Heart sounds are muffled; a systolic murmur is heard at the apex. General blood test: albuminuria up to 1 g%, and fresh and altered erythrocytes in the urine sediment. Complete blood count: Decreased hematocrit, ESR 30-40 mm/s. Leukocytosis and neutrophilia.

1. Your diagnosis? 2. What other diagnostic methods are necessary in this case? 3. Which medication is contraindicated in this case?

Answers:

2. Acute diffuse glomerulonephritis with nephritic syndrome.
3. Ultrasound, Excretory urography, Zimnitskiy test, Addis-Kakovsky test, Nechiporenko test.
4. Corticosteroids are contraindicated.

Problem 2. A 12-year-old patient. After suffering from tonsillitis, the patient developed widespread edema, which is stronger in the morning, predominantly in the face, eyelids, and on the inner surface of the eyelids. Diuresis is decreased. General urine test: Proteinuria 2.5–3 g/day, erythrocytes 7–8, cylindruria (hyaline and granular). Biochemical blood test: Hypoproteinemia, dysproteinemia, cholesterol increased up to 8.0 mmol/l, lipids increased up to 8 g/l.

1. Your diagnosis? 2. What additional examination is necessary in this case? 3. What regimen and diet are required in this case?

Answers:

2. Acute diffuse glomerulonephritis with nephrotic syndrome. 2. Zimnitskiy urine test, Ultrasound, Excretory urography, Addis-Kakovsky test, Nechiporenko test. 3. Regimen No. 1. Diet according to Pevzner: No. 7.

Problem 3. A 7-year-old child. Complaints: condition is satisfactory. Mood is good. No visible edema on the body. Arterial pressure is normal. No abnormalities noted in internal organs. The child is being enrolled in school. General urine test: Relative density: 1.030, proteinuria 2.5 g/day, hematuria, hyaline, erythrocyte, and granular casts.

1. Your diagnosis? 2. The physician's tactics in this situation? 3. What additional treatment measures are necessary?

Answers:

2. Acute glomerulonephritis with isolated urinary syndrome. 2. Hospitalization of the patient in the nephrology department of the children's hospital, examination, and treatment. 3. Addis-Kakovsky, Zimnitskiy, Nechiporenko tests, Ultrasound, Excretory urography.

Problem 4. A 13-year-old child. Suffered from acute glomerulonephritis 6 months ago. Was treated in the nephrology department of the children's hospital for 28 days. During examination, the general condition is poor; the child was hospitalized in the nephrology department of the children's hospital. The child complains of weakness, headache, and fever. Body temperature is 39.0°C. Skin color is pale. Arterial pressure is 140/95, not normalized with hypotensive drugs. Nephrotic syndrome developed. Proteinuria 15–25 g/day, persistent hematuria. Biochemical blood test: Azotemia, hypercreatininemia, hypercholesterolemia, hypoproteinemia. Complete blood count: Normochromic anemia.

1. Your diagnosis? 2. The physician's tactics in this situation?

Answers: 1. Subacute malignant glomerulonephritis. 2. Hospitalization in the nephrology department of the children's hospital.

Problem 5. A 14-year-old child. Suffered from acute glomerulonephritis 2 months ago. The patient has chronic tonsillitis and dental caries. The disease was treated irregularly. During examination, the patient is weak, listless, and has decreased appetite. Periodic edema is noted in the eyelid area, legs, and body. Skin color is pale, dry, and thin. Arterial pressure is within normal limits. The liver and spleen are enlarged. The daily urine volume is decreased. Severe proteinuria 10 g/day and above. Nitrogen residue, cholesterol, urea, creatinine are within normal limits.

1. Your diagnosis? 2. The physician's tactics in this situation? 3. What

additional treatment measures are necessary?

Answers: 1. Chronic glomerulonephritis with nephrotic syndrome. 2. Hospitalization of the patient in the nephrology department of the children's hospital. 3. Ultrasound, Excretory urography, Zimnitskiy, Addis-Kakovsky, Nechiporenko urine tests.

Problem 6. A 15-year-old child. Suffered from acute diffuse glomerulonephritis 3 years ago. The patient has chronic tonsillitis. The primary findings are severe and persistent hematuria, and edema in the face and eyelid area.

When the urine sediment was examined, besides erythrocytes, leukocytes, hyaline and granular casts were found, and up to 1 g/day in urine. Nitrogen residue, urea, creatinine were within normal limits.

1. Your diagnosis? 2. The physician's tactics in this situation.

Answers: 1. Chronic glomerulonephritis, hematuric form. 2. Hospitalization in the nephrology department of the children's hospital.

Problem 7.

A 10-year-old child. Suffered from follicular tonsillitis 3 weeks ago. Treated on an outpatient basis. During examination, swelling in the facial area and knees, and pallor of the skin and mucous membranes are noted. Arterial pressure is 130/90. The boundary of the relative cardiac dullness is expanded. Heart sounds are muffled; a systolic murmur is heard at the apex beat. General blood test: albuminuria up to $1\text{ g}\text{/}\text{L}$ (1 g%o), and fresh and altered erythrocytes in the urine sediment. Complete blood count: Decreased hematocrit, ESR 30–40 mm/s. Leukocytosis and neutrophilia.

1. Your diagnosis? 2. What other diagnostic methods are necessary in this case? 3. Which medication is prescribed in this case?

Problem 8.

A 12-year-old patient. After suffering from tonsillitis, the patient developed widespread edema, stronger in the morning, predominantly in the face, eyelids, and on the inner surface of the ankles. Diuresis is decreased. General urine test: Proteinuria 2.5–3 g/day, erythrocytes 7–8 per high-power field, cylindruria (hyaline and granular). Biochemical blood test: Hypoproteinemia, dysproteinemia, cholesterol increased up to 8.0 mmol/L, lipids increased up to 8 g/L.

1. Your diagnosis? 2. What additional examination is required in this case? 3. What regimen and diet are required in this case?

Problem 9.

A 7-year-old child. Complaints: condition is satisfactory. Mood is good. No visible edema on the body. Arterial pressure is normal. No abnormalities noted in internal organs. The child is being enrolled in school. General urine test: Relative density: 1.030, proteinuria 2.5 g/day, hematuria, hyaline, erythrocyte, and granular casts.

1. Your diagnosis? 2. The physician's tactics in this situation? 3. What additional treatment measures are necessary?

Problem 10.

A 13-year-old child. Suffered from acute glomerulonephritis 6 months ago. Was treated in the nephrology department of the children's hospital for 28 days. During examination, the general condition is poor; the child was hospitalized in the nephrology department of the children's hospital. The child complains of weakness, headache, and fever. Body temperature is 39.0°C. Skin color is pale. Arterial pressure is 140/95, not normalized with hypotensive drugs. Nephrotic syndrome developed. Proteinuria 15–25 g/day, persistent hematuria. Biochemical blood test: Azotemia, hypercreatininemia, hypercholesterolemia, hypoproteinemia. Complete blood count: Normochromic anemia.

1. Your diagnosis? 2. The physician's tactics in this situation?

Problem 11.

A 14-year-old child. Suffered from acute glomerulonephritis 2 months ago. The patient has chronic tonsillitis and dental caries. The disease was treated irregularly. During examination, the patient is weak, listless, and has decreased appetite. Periodic edema is noted in the eyelid area and on the body. Skin color is pale, dry, and thin. Arterial pressure is within normal limits. The liver and spleen are enlarged. The daily urine volume is decreased. Severe proteinuria 10 g/day and above. Nitrogen residue, cholesterol, urea, creatinine are within normal limits.

1. Your diagnosis? 2. The physician's tactics in this situation? 3. What additional treatment measures are necessary?

Answers: 1. Chronic glomerulonephritis with nephrotic syndrome. 2. Hospitalization of the patient in the nephrology department of the children's hospital. 3. Ultrasound, Excretory urography, Zimnitskiy, Addis-Kakovsky, Nechiporenko urine tests.

Problem 12.

A 15-year-old child. Suffered from acute diffuse glomerulonephritis 3 years ago. The patient has chronic tonsillitis. The primary findings are severe and persistent hematuria, and edema in the face and eyelid area. When the urine sediment was examined, besides erythrocytes, leukocytes, hyaline and granular casts were found, and up to 1 g/day in urine. Nitrogen residue, urea, creatinine were within normal limits.

1. Your diagnosis? 2. The physician's tactics in this situation.

Answers: 1. Chronic glomerulonephritis, hematuric form. 2. Hospitalization in the nephrology department of the children's hospital.

In the educational content of Pediatrics. Neonatology, the research should reflect the following medical-pedagogical knowledge: having an understanding of the diseases encountered during the neonatal period; knowing the etiology, pathogenesis, clinical picture, differential diagnosis, laboratory indices of common diseases in the neonatal period, principles of treating childhood diseases, ways to prevent diseases, and rules for rehabilitation and dispensary follow-up of patients in polyclinic conditions; being able to use this knowledge; determining indicators of children's physical and psychomotor development (measuring the child's weight and height); assessing the physical development and maturity of a newborn; determining the main clinical, laboratory, and instrumental criteria of diseases; determining unconditioned reflexes in newborns; the technique of proper breastfeeding; the technique of nasogastric intubation; determining heart borders; determining liver borders; providing aid in hyperthermia; providing aid when a foreign body enters the upper respiratory tract; providing aid in anaphylactic shock; promoting a healthy lifestyle among the population; and possessing practical skills in interpreting laboratory tests (blood, urine, and stool analyses).

The current curriculum and textbooks must, when we engage students in analysis, encourage independent exploration in line with the goal of neonatology education. In such circumstances, the most crucial part of the textbook should be not the theoretical information base, but the educational tasks that teach the student to use the countless methodological opportunities of medical pedagogy and pediatrics productively and appropriately. It is important that modern electronic textbooks integrate many information sources. In this process, educational tasks should be able to connect the "locomotive" to the "wagons" loaded with educational dictionaries, audio, video materials, collections of exercises and assignments, tests, visual aids, and electronic resources, and serve as the main tool in their use.

It must be emphasized that medical education should teach how to solve medical-clinical problems. Questions, assignments, and problems given through every lesson in Neonatology education should likewise

guide the student, the future medical specialist, toward solving medical problems. In the medical higher education system, utilizing methodological approaches, particularly in formulating educational tasks, is effective when teaching the subject Pediatrics. Neonatology.

The educational content of Pediatrics. Neonatology develops and improves as a result of approaching the research source—the medical scientific schools that determine medical progress and make the state and the nation world-famous—based on strict methodological principles of a new interpretation. Thanks to the implementation of the Law "On Education," medical education has been saved from the consequences of formal interpretation based on European templates, and is now fully shifted to the fundamentals of the methodology of substantial analysis—to truly Uzbek medical analysis methods—which are also attracting the attention of global medicine. Currently, in connection with the updating of educational-methodological complexes, real opportunities exist in our republic to shift the medical-methodological interpretations across more than 30 specializations taught in the medical higher education system to Uzbek (substantial) interpretation methods, firstly, to harmonize the interpretations received in secondary education on medical construction with the medical interpretations given at medical universities, and secondly, to stabilize the place of the Uzbek medical school in the global medical lineage. This indicates that the main focus in medical higher education should be on developing clinical-medical competence.

The success of acquiring ability in a person depends on motivational factors and the level of development of the student's general medical education skills. According to the concept of M.B. Elkonin in medicine, the study of the child as a person should, in the process of child development, first involve the mastery of the motivational aspect of the activity, and then the technical process. At the same time, scholars also highlight the following factors: socio-political (the state relevance of education, compulsory schooling); professional value (training for medical education, profession); social prestige, collective responsibility; communicative (the necessity of communication); reasons related to the need for self-education, the desire for self-improvement; utilitarian (the need for knowledge as a means to achieve certain life benefits); and anxiety factors (not falling behind in class, not getting a low grade).

Most contemporary scholars include the following in the structural composition of medical competencies in medicine: subject competence; medical competence; communicative competence; continuous intellectual development: mental processes (memory—visual and auditory, thinking—abstract and figurative, observation, imagination—reproductive and creative); the spiritual wealth of a person—continuous spiritual development, deontological ethical norms, and primarily adherence to the norm of communication. M. Nepp points out that a child begins to acquire knowledge at the age of 2-3 because, by understanding the speech of other people, they receive the objective laws encoded through subconscious sensations in the combination of words and the construction of sentences, as well as the experience of many ancestors. Alongside the development of consciousness in a person, an internal plan of possible actions is structured in the subconscious, and models of actions to be implemented in a specific situation are created. The analysis of psychological research by L.S. Vygotsky, I.Ya. Zimnyaya, A.N. Leontev, and S.L. Rubinshteyn allows us to speak about the dependence of the level of knowledge on the level of development. In I.Ya. Zimnyaya's opinion, this should be viewed as a complex, multifaceted phenomenon that ensures the scientific worldview. To implement this requirement, a system of educational tasks based on a methodological approach must be developed in medical education. Therefore, it is

necessary to study the advantages of cognitive-methodological education that allows for the expression of thoughts appropriate to various medical situations and serves the effective nature of mutual medical pediatrics.

Can a student be encouraged to ask questions during a lesson? In most cases, this is not paid attention to, and opportunities are not created. If students ask the teacher a question, it is usually not encouraged. In the educational content of Pediatrics. Neonatology and other subjects, students are primarily responders. In fact, students should be taught to ask more questions. In the communication process, the answer depends on how the question is asked. The ability to think is determined not only by the ability to answer questions but also by the ability to ask them. It is necessary to instill in students the skill of asking correct and logical questions. This is very important for fostering a thinking medical specialist who will make correct decisions in the future.

References

1. Akhmedova M.E. et al. *Professional Pedagogy*. Textbook. “Medical Publishing House” LLC, 2022. 280 pages.

2. Akhmedova M.E., Tashkenbayeva R.N., Suyunova E.Sh., Lapasov U.L. *Pedagogical Skill and Professional Competence of Medical Pedagogy*. Educational-Methodological Manual. “Medical Publishing House” LLC, 2021.

3. Akhmedova M.E. *General Pedagogy*. Textbook. 2024. 378 pages. Baraka Biznes LLC.

4. Akhmedova M.E. *Scientific and Theoretical Foundations of Developing Independent Tasks in the Module-Credit System (on the example of Philological Sciences)*. Monograph. “Medical Publishing House” LLC, 2022. 173 pages.

5. Akhmedova M.E. Improvement of didactic, pragmatic methods of independent study tasks in philological education in the credit-module system. *Asian Journal of Research in Social Sciences and Humanities*, India, Vol. 12, Issue 02, 2022/2, Pages: 86-90.

6. Akhmedova M.E. Improvement of pedagogical - pragmatic processes of independent study. Tasks in philological higher education. *European Journal of Humanities & Educational Advancements*, Vol. 3, No. 04, April 2022, Spain, Pages 279-281.

7. Akhmedova M.E. *Pedagogy for Medical Education*. Textbook. “Medical Publishing House” LLC. Tashkent - 2022. 223 pages.

8. Zernov N.G., Tarasov O.F. *Semiotics of Children's Diseases*. Moscow, 1984.

9. Isayeva L.A. *Children's Diseases*. Moscow, 1994.

10. Gref Dj. *Pediatrics* (translated from Russian). Moscow, 1997.

11. Sushko Ye.P. and co-authors. *Children's Diseases*. Minsk, 1998.

12. Richard P., Polin P., Mark F. Dittmar. *Secrets of Pediatrics*. 1999.

13. Shabalov N.P. *Children's Diseases*. Saint Petersburg, 2006.