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**Y. V. Rohalska**ORCID <https://orcid.org/0000-0002-6376-1953>*I. Horbachevsky Ternopil National Medical University***PROBLEM-ORIENTED TEACHING OF CHILDHOOD INFECTIOUS DISEASES FOR MEDICAL STUDENTS GRADUATE COURSES****Л. А. Волянська, Т. О. Воронцова, Е. І. Бурбела, Я. В. Рогальська***Тернопільський національний медичний університет імені І. Я. Горбачевського МОЗ України***ПРОБЛЕМНО-ОРІЄНТОВАНЕ ВИКЛАДАННЯ ДИТЯЧИХ ІНФЕКЦІЙНИХ ХВОРОБ ДЛЯ СТУДЕНТІВ МЕДИЧНОГО ФАКУЛЬТЕТУ НА ВИПУСКНОМУ КУРСІ**

**Abstract.** The accelerated pace of scientific and technological development of modern Ukrainian society, is steadily striving to unite with the world community, puts the requirement for urgent modernization in front of the traditional higher school. The quality of education to an outstanding extent depends on the effectiveness of communication in the “teacher-student” system. Our proposed form for the study of childhood infectious diseases allows to bypass the imposition of the authoritarian thought of the teacher. This is achieved through the formation of a productive team of teacher – students on mutually beneficial conditions of cooperation on the basis of bilateral (both of the teacher and the student) internal motivation.

The basis of innovations in the teaching of medicine today is the introduction of interactive cooperation between those who help to study, and those who study, and problem-oriented learning. Therefore, in the study of children's infectious diseases by graduate students, the practical lesson is based on thematic (according to the topic of the practical lesson) supervision of the patient in the presence of the attending physician and under the supervision of the teacher. This is a real child with a real problem, and therefore, the teacher created an original task, tied to a real life situation. Such a clinical task for its solution requires the student to independently apply a wide range of knowledge and skills in the studied discipline in related subjects. A role-playing game begins: the attending physician (the student who observed the patient) invites other specialists (the rest of the group's students) to the council to help make a diagnosis.

Prospects for further improvement of the educational process in the study of pediatric infectious diseases will relate to stimulating interest in the subject by promoting the idea of involving students to actively participate in the development of their practical skills through elements of research work within the scope of the work program.

**Key words:** problem-oriented learning; children's infectious diseases; graduation course.

**Анотація.** Ґрунтом інновацій у викладанні медицини стало на сьогодні впровадження інтерактивної взаємодії між тими, хто вчиться, і тими, хто їм допомагає, та проблемно-орієнтоване навчання. Вдосконалення викладання дитячих інфекційних хвороб через впровадження проблемно-орієнтованого підходу до навчання є необхідною вимогою часу.

Студентам випускного курсу при вивченні дитячих інфекційних хвороб в основу практичного заняття покладено тематичну (згідно з темою практичного заняття) курацію хворого в присутності лікаря та під контролем викладача. Тобто центральне місце при вивченні курсу займає оригінальна проблема – конкретна хвора дитина з притаманними лише їй особливостями перебігу захворювання. Теоретичні знання в даному випадку мають пройти іспит практикою. Через конкретного пацієнта ініціюється необхідність скласти пазли «теорія і практика». Студент повинен сформулювати правильний діагноз і запропонувати застосування відповідного протоколу діагностики та лікування. Це практично-орієнтоване клінічне завдання дає змогу викладачеві працювати як індивідуально з одним студентом, так і залучати всю академічну групу як учасників консиліуму по даному хворому та мати

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можливість продемонструвати можливості колективного вирішення проблеми. Викладач у такій уже колективній ролевій грі виконуватиме роль супроводжуючого фасилітатора, а тьюнер не обмежується лише роллю джерела знань.

Якість навчання значною мірою залежить від ефективності комунікації в системі «викладач – студент». Від умінь викладача подати матеріал, вибудувувати взаємовідносини зі студентами залежить ступінь їх пізнавального інтересу до предмета, формується внутрішня мотивація до навчання. Пропонована нами форма вивчення дитячих інфекційних хвороб дозволяє оминати нав'язування авторитарної думки викладача шляхом формування продуктивної команди викладач – студенти на взаємовигідних умовах співпраці на ґрунті двостороннього (і з боку викладача, і з боку студента) володіння внутрішньою мотивацією. Завдання сучасного викладача – пристосуватися до зростання вимог організації навчального процесу у вищій школі, до засвоєння новітніх технологій у цій галузі, і насамперед, бути висококваліфікованим фахівцем у своїй галузі знань, вміти швидко і якісно сприймати та практично застосовувати всі інновації, кількість яких зростає з року в рік.

Перспективи подальшого вдосконалення навчального процесу при вивченні дитячих інфекційних хвороб стосуватимуться стимуляції інтересу до даного предмета шляхом просування ідеї залучення студентів до активної участі в освоєнні ними практичних навичок через елементи науково-дослідницької роботи в рамках тем, що передбачені робочою програмою.

**Ключові слова:** проблемно-орієнтоване навчання; дитячі інфекційні хвороби; випускний курс.

**Introduction.** The accelerated pace of scientific and technological development of modern Ukrainian society, is steadily striving to unite with the world community, puts the requirement for urgent modernization in front of the traditional higher school. The requirements of employers in the medical industry today are not limited only by the need for the applicant to have a high theoretical level of knowledge in the main specialty, but requires a good level of practical skills. To be a highly competitive professional in a constantly evolving world, you must have the ability to quickly respond to scientific and technical innovations and at the same time be able to combine them with sufficient practical experience. Therefore, practical skills, the ability to efficiently and quickly master the latest technology at this stage of updating Ukrainian higher education is one of the main directions of improving the educational process.

**The aim** – to improve the teaching of infectious diseases through the introduction of a problem-oriented approach to learning.

**Theoretical framework.** The basis of innovations in the teaching of medicine today is the introduction of interactive cooperation between those who help to study, and those who study, and problem-oriented learning. The latter contributes to the integration of the educational process with modern science, with problems of reality and with the life experience of students [1]. Therefore, in the study of children's infectious diseases by graduate students, the practical lesson is based on thematic (according to the topic of the practical lesson) supervision of the patient in the presence of the attending physician and under the supervision of the teacher. That is, the central issue in the study of the course is occupied by the original problem – a sick child with the specific features of the disease course.

This is a real child with a real problem, and therefore, the teacher created an original task, tied to a real life

situation (Fig. 1). Such a clinical task for its solution requires the student to independently apply a wide range of knowledge and skills in the studied discipline in related subjects. The student, collected a medical history and conducted a physical examination of the patient, received an almost complete clinical practical-oriented task, which requires further solutions in the form of a choice of examination and treatment tactics in a particular case. At this stage, another original task is connected, tied to real life – a consultation on this clinical situation. And this is another skill – the ability to report the received information to the group after examining the patient (Fig. 2). For the rest of the students, the ability to perceive and synthesis information, and for the teacher to teach to solve the problem collectively, that is an element of team work. A role-playing game begins: the attending physician (the student who observed the patient) invites other specialists (the rest of the group's students) to the council to help make a diagnosis. Thus, other groups are involved in the process of solving a specific problem from real life. At this stage, an individual approach to each student is implemented. Opportunities are created for the teacher to help the younger colleague in the process of the current solution of a particular problem, to be able to independently understand the gaps in his knowledge and skills, and to enable him to find the right solution. The teacher plays the role of an accompanying facilitator (a person, provides successful group communication). He is a mentor, but his function is not limited to the role of a source of knowledge and skills. He is a moderator, which ensures the movement of the game in the right direction. His participation in the discussion of current problems in the further process of analyzing a clinical case makes it possible to implement a multidisciplinary approach, which is especially important for the final course. At the next stage, students can be divided into subgroups with separate tasks. For example, to determine at what stage

of medical care this particular patient is retrospectively or in the future treatment process, this subgroup is located. At the same time, the teacher monitors the direction of each student's clinical thinking in a collective discussion, if necessary, provokes to analyze the correctness of actions and helps to build the most appropriate individual algorithm for managing this patient, allows the student to cover several clinical points during one practical lesson. At this stage, it is possible for the teacher to create the conditions for introspection individually by each of the students, involving students from another subgroup in discussing tactics for solving the problem and simultaneously assessing the completed task. The solution of the problem in the field of practical medicine, which is carried out jointly with the teacher in a collective discussion with the participation of all students of the group, provides the development of diverse abilities, encourages creative thinking and allows the student to independently decide how to apply his or her acquired theoretical knowledge in a particular life situation and practical skills. And if they are insufficient, this should be self-recognized by the student and encourage self-improvement in all possible ways.

In the course of an educational consultation about a specific clinical case, the teacher's function is to initiate a problem, to present it in such a way as to make it interesting and to encourage the need to find possibilities and solutions.

The problem situation is formed by the teacher on a real specific clinical situation to motivate students to find ways, options for solving it. These two components of the educational process during the practical training allow students to cognitive need and independent search activity.

**Conclusions and Prospects for Research.** The quality of education to an outstanding extent depends on the effectiveness of communication in the "teacher-student" system. The degree of their cognitive interest in the subject depends on the teacher's ability to present material, build relationships with students, and an internal motivation for learning is formed.

Our proposed form for the study of childhood infectious diseases allows to bypass the imposition of the authoritarian thought of the teacher. This is achieved through the formation of a productive team of teacher – students on mutually beneficial conditions of cooperation on the basis of bilateral (both of the



**Fig. 1.** Students observe a patient with a doctor.



**Fig. 2.** Group discussion with associate professor.

teacher and the student) internal motivation. The task of a modern teacher is to be able to adapt to the growing requirements of the organization of the educational process in higher education. Also, to master the latest technologies in this field, and above all, to be a highly qualified specialist in field of knowledge, to be able to quickly and accurately perceive and practically apply all innovations, the number of which is growing from year to year.

Prospects for further improvement of the educational process in the study of pediatric infectious diseases will relate to stimulating interest in the subject by promoting the idea of involving students to actively participate in the development of their practical skills through elements of research work within the scope of the work program.

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