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APPROACHES TO CONDUCTING OF MEDICINAL CHEMISTRY CLASSES FOR NURSES IN THE PROFESSIONAL COLLEGE OF BUKOVINIAN STATE MEDICAL UNIVERSITY

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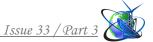**Yulia Kropelnytska,**
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Abstract. At the present stage of development of Ukraine, it is essential to improve the system of traditional higher education. In the current system of training future medical and pharmaceutical specialists in the professional college, despite the absolute achievements in it, there are certain shortcomings, namely: lack of incentives for quality and systematic work, low level of activity and independence, the possibility of biased evaluation of knowledge. The studies in a professional college should potentially be directed not only to the quality preparation of future professionals due to their specialization but also towards the training of experts who have the knowledge and skills for effective evaluation methods of the educational achievements of the students.
Key words: medicinal chemistry classes, professional college, interactive learning methods, evaluation methods.

Introduction.

The priority of modern higher education lies in the comprehensive and harmonious development of the individual who is able to creatively solve general production and social and economic problems. Ensuring the quality of training conditions for specialists who would meet today's requirements directly depends on the content and organization of the educational process because its course comprises the individual's professional development. Control is an important structural component of the learning process related to its goals, content and methods. The setting of training goals and objectives, application choice and sequence of the training methods largely depend on the results of control. Control takes part in feedback realization, which in turn allows to quickly regulate and adjust the learning process as well as to set specific tasks for the next lesson. Due to accents transferring upon independent mastering of knowledge the following aspects acquire great value, i.e. study of the control role in formation of the students' learning motivation, development of their cognitive independence and self-control of the person. In this regard, in the research process much attention is paid to works elaborating the problems of personality development, its value orientations and cognitive abilities.

All these aspects are reflected in the works of I. Voloshchuk, S. Honcharenko, M. Yevtukh, I. Zyazyun, O. Kyrychuk, V. Korneev and others [1].
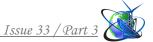
Main part.

The higher education system is a multifaceted process consisting of a number of interrelated elements. Among them, an important place is occupied by knowledge control, i.e. the organization of feedback as a means of managing the educational process. This problem is especially relevant today as the higher education system in Ukraine is subject to complete organizational restructuring. Increased attention towards the problem of classes control is caused not only by the desire to determine the degree of the students' readiness but also the desire to improve the education system.

Knowledge acquired in the process of studying a particular subject may seem to the student correct and quite complete, although in fact, objectively, it does not meet the requirements. Usually only after checking and evaluating the acquired knowledge, skills and abilities the student learns what he knows and what he does not know or does not know enough as well as what he needs to do to improve the quality of knowledge. This allows the student to draw independent conclusions about the best organization of their learning process. It is important to be aware of the positive experience of the best students in the group. On this basis, the student decides what the content and methodology of his further work should be and what he needs to pay more attention in order to further improve learning.

There are different approaches for determining the evaluating criteria of the students' cognitive activity and its results in modern pedagogy of higher school. Thus, A. Boyko proposes to take the structural components of educational activities as the object of assessment, namely:

1. The content component, i.e. the amount of knowledge about the object of study (according to curricula, state standards). The following characteristics of knowledge are subject to analysis during the assessment: completeness, correctness, logic, awareness (understanding, separation of the main and secondary); verbalization, i.e. verbal design (translation, explanation); ability to apply knowledge, etc.

2. The operational and organizational component, i.e. the student's ability to choose ways of action based on the curriculum of the assessed discipline (subject actions); individual mental abilities, i.e. the ability to compare, abstract, classify, generalize, etc. (mental actions); skills to analyze, plan, organize, control the process and results of the task, activities in general (general learning activities). The correctness, independence of execution taking into the account novelty (according to the sample, similar, relatively new); understanding and verbal design: reproduction (translation), explanation, application in terms of novelty, etc. are also subject to analysis.

3. The emotional and motivational component, i.e. attitude to learning (indifferent, not positive enough, interested, pronounced, positive).

These characteristics can be taken as a basis for determining the level of academic achievement, general criteria for their evaluation and appropriate grades (in points) [2].

Today, in modern conditions, one of the important means of improving the efficiency of the educational process is to create a stimulating control system over the students' educational work.

Various methods and forms of control are used at the department to effectively check the level of students' acquisition of knowledge, skills and abilities in medical chemistry. The methods of oral and written control, self-control, as well as the method of self-assessment by the student are used for this purpose.

At the preliminary stage of the practical lesson in medical chemistry, teachers practice oral control of the students' mastery level of theoretical material, namely frontal questioning. The advantage of this control method is the ability to involve all students of the group in active mental work. For this, questions should allow a short form of answer, be concise, logically connected and given in such a sequence that the students' answers in general can reveal the content of the section or the topic. With the help of frontal questioning, teacher or lecturer has the opportunity to check the students' homework, find out the readiness of the group to learn new material, determine the formation of basic concepts and level of mastering the new material. Questions should be primarily exploratory in nature to encourage students to engage in independent mental activity. This requirement is fulfilled, for example, by the following questions: establishing the sequence of actions, process, method ('What will happen if…', 'How will this change if…'); comparison ('What is the difference…'); identifying the main characteristics, signs or qualities of objects, phenomena ('Specify the properties of...', 'In which cases...', 'What are the necessary conditions....'). Therefore, when conducting frontal questioning, it is advisable to use interactive teaching methods, namely 'Bloom's chamomile strategy' or methods such as 'Microphone' or 'Incomplete sentence'.
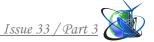
The oral evaluation is conducted in the following sequence:
- formulation of questions (tasks) from the studied material and the curriculum requirements;
- preparing students for answering and presentation of knowledge;
- the lecturer's adjustment of the knowledge stated in the process of answering;
- answer analysis and evaluation by the lecturer [2].

The use of oral control promotes close contact between lecturer and student, allows one to identify the scope and thoroughness of knowledge, gaps and inaccuracies in students' knowledge and immediately correct them.

Also written control is a mandatory method of testing knowledge in practical classes, i.e. finding out in writing the mastery level of students' knowledge, skills and abilities in the subject, determining their quality, accuracy, precision, ability to apply knowledge in practice. The advantage of this method is that in a short period of time it is possible to assess the knowledge of many students and it is possible to find out details and inaccuracies in the answers [3].

To determine the level of knowledge and skills in medical chemistry students are invited to take an online test on 'MOODLE', the site for distance learning of Bukovinian State Medical University. Each student has a limited time to take the test, which does not allow them to look for clues from groupmates or in the supporting literature. This makes it possible to really assess the knowledge and ability to apply

them in practice. After passing the test, the program evaluates the students' answers and gives them a grade.

Test control is used to update knowledge before teaching a new topic, finalizing the grades, in group classes, in a final examination or module as well as before performing practical skills. In addition, tests are a means of internal control for comparing, determining the success levels of individual students' groups as well as comparative characteristics of different teaching forms and methods [4].

This type of control allows the lecturer to use time more efficiently, sets the same requirements for all students, helps to avoid excessive anxiety. The test makes randomness in the knowledge assessment impossible and stimulates students to self-control. However, the test can only reveal knowledge of the facts, it encourages mechanical memorization not the thinking process.

Situational problem solving is used to test the students' ability to apply the acquired knowledge in practice. For this stage, it is also best to use interactive technologies, such as the methods "Carousel", "Cooperative Learning", "Working in small groups" ets. The "Carousel" method is favored in the work with students of the professional college. According to this method students are divided into small groups and offer situational problems, for the solution of which each group offers its own answer in a turn and then summarizes the received materials and reports on this issue. An example of a situational problem for the lesson: "The decomposition of an antispasmodic in aqueous solution follows the mechanism of the first order reaction. Calculate the decomposition time of 10% of the drug at 293 K, if the half-life at this temperature is 150 hours".

The final stage of the practical lesson, in our opinion, can be summed up by conducting a "brainstorming" session. This is a problem-solving method where all participants reflect on one global problem. This technology is used when several solutions are needed. Based on life experience and knowledge, all participants in the discussion are free to express their views. Brainstorming encourages students to be creative, develops the ability to quickly analyze the situation. In a short time (up to 3 minutes) you can collect a large number of ideas (written out on the board). The proposed ideas are systematized, analyzed, discussed and the absurd, erroneous and those that will help solve the problem are highlighted.
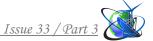
When using interactive teaching methods at all stages of the lesson, the lecturer can also use the methods of self-control and self-assessment for students.

The method of self-control is a conscious regulation by a student of his activity in order to ensure such results that would correspond to the set tasks, requirements, norms, rules and samples. The purpose of self-control is to prevent mistakes and correct them. An indicator of self-control formation is the student's awareness of the rightness of the activity plan and its operational composition, i.e. the method of implementation of this plan [5].

The method of self-assessment involves the student's critical attitude towards their abilities and capabilities to objectively assess the achieved results.

Conclusions.

The effectiveness of implementing control methods and forms over the students' knowledge, skills and abilities depends on their successful choice and inclusion in the

overall learning process as well as the skillful use of lecturers. The use of interactive teaching methods makes control in practical classes more effective by involving all students in the work as well as develops their skills for self-control and self-assessment.

As the experience of teaching medicinal chemistry to students of the professional college has shown, it is advisable to use the following control methods: oral frontal questioning for the preparatory or preliminary stage of the lesson and test control for the final part. It is also favorable to conduct testing on the basis of distance learning server 'MOODLE'. Interactive teaching methods, such as "Working in small groups", "Bloom's chamomile strategy", "Brainstorming", have proven themselves well during practical classes.

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