



Galician Medical Journal

*Scientific and Practical Journal
of Ivano-Frankivsk National
Medical University*

H.P. Hamorak

Modern Aspects of Formation of Medical Students' Professional Competencies at the Department of Microbiology
Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine

Abstract. The leading goal of any higher educational institution is professional education and training. Advances in medicine require constant improvement of the educational process taking into account the acquired experience, traditional teaching methods and the use of new medical technologies in order to provide professional development of graduates and enhance the competitiveness of higher educational institution.

Keywords: *medical students; methodical guides; practical skills; practical classes*

One of the major aspects of students' professional training is in-depth study of discipline and acquiring the necessary practical skills when participating actively during lesson. To improve the educational process at the Department of Microbiology our teaching staff uses the tried-and-tested system of instructions for conducting practical classes that in accordance with current requirements involves the control and evaluation of students' knowledge using tests and case studies, recitation, analysis of theoretical issues, mastering of practical skills [5].

The use of tables and topic-based multimedia materials ensures profound mastering of the subject. The acquirement of practical skills and their in-class practicing are of great importance in training future doctors. The control of practical skills allows us to assess the students' ability to use different research methods as well as their competence in evaluating the patient's condition, making the diagnosis, administering proper treatment, and formulating preventive measures objectively. The teaching staff of the department is constantly working to improve the material and technical base as well as information support of the educational process [3]. Students have the opportunity to prepare for practical classes in Microbiology using all necessary training resources available online from the university website.

A lecture is one of the basic ways to provide students with the necessary information as well as to form their scientific worldview. While delivering a lecture the teacher provides students with systematically arranged basic knowledge, defines the main points of the topic, directs students' attention to the most complex and important issues. A lecture stimulates active cognitive activity, promotes creative thinking, and determines the direction of independent work of students and the content of seminars [6]. Every lecture on microbiology covers the major issues clearly and consistently using multimedia support. The main idea of multimedia presentations involves the use of different methods of presenting information including software allowing us to create high-quality graphics and animation. It allows us to make a lecture more informative and easier to understand.

During practical classes teachers widely use the methods of elaboration of problematic and controversial issues, theory and techniques of cooperative learning. The methods of elaboration of problematic and controversial issues involve the discussion of controversial items that require clear argumentation of chosen standpoint. Cooperative learning techniques involve working in small groups to solve complex problems that require all the elements of teamwork [1].

Practical classes at the department of microbiology are focused on the mastering of new theoretical material and the formation of new practical skills, as well as the ability to analyze and apply the acquired knowledge when solving topic-based tasks. One of the key points is to learn the morphology and functions of different pathogens, mechanisms of transmission, pathogenic factors, and clinical symptoms of the disease, microbiological diagnostics, prevention and principles of treatment. This learning technique is directed towards developing students' clinical thinking, creative imagination and modeling tactics of the physician in specific clinical situations. The required stage of any practical class involves students' working in microbiological laboratory where they practise inoculation of medium, subculturing of an isolated colony onto the slanting agar with the aim to obtain pure culture and identify it [2].

Students' independent work involves study of the reference materials and preparation for discussion during practical classes.

Practical sessions are held in specially equipped classrooms with the use of equipment adapted to the conditions of the educational process. A student should learn the theoretical material well and have an idea about the aim, character and amount of practical activities. The practical in-class work is displayed in students' sketchbooks. According to the results of independent work the conclusion is made. The use of case studies has proved to be an effective way of training

medical students, as they deal with real clinical cases [4]. These tasks create real “critical” professional conditions which the student must solve by himself. Thus, solving case studies contributes to the formation of students’ critical thinking, as well as provides quick and effective development of practical skills.

To facilitate the preparation for practical classes detailed instructions containing brief information on major issues of the subject are offered for students. The teaching staff of our department has also updated the computer database for “Krok-1” testing the tasks of which are used during practical classes and final module control and are open for every interested student. Professional training of students at the Department of Microbiology includes the introduction of the latest teaching technologies, practical in-class work, consolidation of acquired knowledge that promotes the improvement of teaching quality and enables students to acquire all the necessary theoretical knowledge and practical skills.

Modern provision of high quality training of doctors is determined by proper approach to teaching and demands continuous improvement from the teaching staff, implementation of creative ideas on the basis of reliable material and technical base [7]. Transition to new computer-based teaching technologies, creating the conditions for their development, approbation and implementation, as well as their reasonable combination with the traditional teaching methods are the imperatives of our time and constitute a complicated pedagogical task that involves a broad range of psychological and pedagogical, organizational, methodical, technical and other issues.

Conclusions

Thus, an important role in the system of training future doctors when teaching basic theoretical subjects including Microbiology belongs to modern methods of visualization, the use of modern methodological support, development of modern material and technical base, consideration of foreign methodological experience, and implementation of new effective teaching methods. At the same time there is no need to abandon traditional teaching approaches. It will contribute to improving the quality of students’ training that meets the requirements of the European educational space and is currently a priority direction in the development of medical education in Ukraine.

References

1. Bedeniuk AD. Doctrine of the educational process in higher medical educational institutions according to credit-modular system. *Medychna osvita*. 2012;1:13-14.
2. Dovhal HV, Mashtalir MA, Kramar SB, et al. Peculiarities of practical training in fundamental disciplines in higher education institutions under conditions of implementation of credit-modular system. *Ukraiinskyi morfolohichniy almanakh*. 2011;9(3):95-96.
3. Doroshenko OO, Liskevych II, Maksymchuk LT, et al. Interactive methods of teaching as a means of improving practical classes in discipline “Neurology” according to credit-modular system. *Galic’kij likars’kij visnik*. 2012;19(3):66-67.
4. Kaskova LF, Karpenko OO, Abramova OE, et al. Training of highly-qualified specialist as a basis of credit-modular system implementation. *Medychna osvita*. 2011;3:82-84.
5. Lisovyi VM, Kapustnyk VA, Korobchanskyi VO, et al. The problem of improving the professional training of medical specialists at the current stage of credit-modular system. *Medychna osvita*. 2011;2:74-77.
6. Melnychuk HM, Havryliv HM, Shovkova NI, et al. Ways of improving methodology of teaching the discipline “Propedeutics of pediatric therapeutic dentistry” at the Department of Pediatric Dentistry of Ivano-Frankivsk National Medical University under the conditions of credit-modular system. *Arkhiv klinichnoii medytsyny*. 2012;1:101-102.
7. Vitenko IS, Dziak HV, Berezhnyskyi YaS, et al. Organization of the educational process and its quality control under conditions of credit-modular system at clinical departments of higher medical educational institutions of Ukraine. *Medychna osvita*. 2010;1:41-44.