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DEVELOPMENT OF SCIENTIFIC FOUNDATIONS FOR CONDUCTING PRACTICAL TRAINING IN HYGIENE SCIENCE IN HIGHER MEDICAL EDUCATION INSTITUTIONS USING EFFECTIVE AND MODERN METHODS

Annotation: The article presents the experience of applying the elements of the method of problembasedlearning (PBL) within the framework of the course of teaching hygiene disciplines to students of the Faculty of Preventive Medicine. The high efficiency of the (PBL) method was achieved after the preliminary preparation of cases, with a description of specific situations and a set of necessary documents and sources of information.

Keywords: Problem-based learning, teaching methods, medical education, cases, production factors.

INTRODUCTION

At present, in modern higher education, much attention is paid to the introduction of innovative teaching methods into the educational process. The correct combination of traditional and innovative teaching methods helps develop students' cognitive interests and creative abilities, and prepare them for practical work. In today's rapidly changing world, where competition is becoming increasingly intense every day, the lack of practical experience and skills among students can become a serious and significant obstacle to their employment and career growth. In this regard, modern teaching methods aimed at developing certain practical skills in students are becoming increasingly popular. In this case, we are talking not only and not so much about the invention of fundamentally new ways, methods and techniques of teaching, but about the fact that the roles of the teacher and the student, as well as the system of relationships between them, should be rethought. It is necessary to "expand" education and direct its focus from the teacher to the student (pupil), to make the student not only a consumer of ready-made knowledge, but also an active learner, an independent participant in the educational process, to form a relationship of cooperation between the teacher and the student. Theoretical and practical knowledge acquired by students during their studies is valuable because it teaches them to think professionally and deepens their general knowledge in various areas of their future specialty. However, at present, the task of teachers is not limited to simply conveying certain knowledge to students. Often, the acquired skills and abilities cannot be directly used in one or another area of sanitary supervision.

METHODS

The PBL (Problem-Based Learning) method is considered as a successful innovative teaching method that is aimed at independent work of the student. In this method, the emphasis of training shifts from the teacher to the student, since now the student takes a more active role, trying to solve the assigned practical problem. This technique teaches the student to more broadly and deeply comprehend everything said by the teacher during lectures and written in textbooks.

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The ability of teachers to conduct problem-oriented classes with students overlaps with the readiness of students to perceive the activities offered by teachers. Problem-based learning involves the development of communication skills, critical thinking and creativity, but the effectiveness of training increases several times if the student is already prepared to perceive information presented in a special way: through a project, problem, teamwork and practice.

The purpose of the work is to study the effectiveness of the PBL method by comparing it with traditional practical classes, its advantages and possible risks.

In order to prepare for conducting classes on PBL technology, methodological instructions for classes were developed, which represent a scenario of production situations, either in the form of sequential tasks or in the form of a job description (depending on the topic of the class).

RESULTS

The prerequisite for studying and implementing this method in the educational process was the need to preserve the existing experience of teaching clinical disciplines, modernize such existing forms of classes as: "business games", "situational tasks", "role-playing games", "brainstorming" and the requirements of the modern educational process. The main difference between the PBL method and other traditional methods is that training is focused on finding information needed to solve cases by the students themselves. The teacher acts as a tutor, whose role is to monitor and ensure the discussion in the right direction. Often, the choice of methods for solving and completing a particular task is determined entirely by the students. Students and the teacher become employees, conduct research, search for information. In classes, students study factors of the production environment, morbidity of workers adequate to age, experience, profession, learn to doubt and find answers to controversial issues, and also invent, design and create various objects and artifacts for certain tasks. Students express and evaluate various solutions themselves, have the opportunity to think over and justify their choice. Cases for students in disciplines related to modern methods for qualitative and quantitative assessment of levels of exposure to harmful production factors, conducting a hygienic assessment of certain technical projects and solutions, etc. The area of professional activity of a specialist includes a set of technologies, means, methods and techniques aimed at maintaining and improving public health by ensuring the proper quality of preventive measures aimed at creating optimal working conditions, maintaining performance and strengthening the health of workers at production facilities.

DISCUSSION

In addition to information on the impact of harmful production factors, the cases contained assignments and a list of key sources (textbooks, articles, email addresses of key Internet sites). When compiling the assignments, special attention was paid to ensuring that they were specific, feasible and, most importantly, that they stimulated students to search for additional information. For the reflection stage, tests were developed to assess the acquired knowledge and questionnaires to monitor the elements of PBL technology in comparison with traditional methods of conducting practical classes. The algorithm for conducting classes on the discipline "Drawing up a map of working conditions and conducting certification of workplaces" looked like this:

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1) Since all practical classes on the discipline are conducted using laboratory studies, a selection and preparation of tools with an appropriate factor (noise, vibration, heating microclimate, EMF, barometric pressure, air humidity) is carried out in advance;

2) Students are given cases;

3) During the first lesson, students, under the guidance of the teacher, conduct a detailed analysis of the situation, put forward hypotheses about the causes and circumstances of the incident, suggest possible solutions to problems, and assume consequences. As a result of such "brainstorming" all the hypotheses that the students have are recorded on the board, thereby forming the necessary objects of research;

4) Then the students are divided into 2 groups, one of which goes to the production premises to monitor the state of working conditions at the workplaces, identifies occupational hazards, and conducts a survey of the workshops. 5-6 students work under the guidance of a teacher and choose a speaker to summarize the results obtained;

5) The second group of students goes to the department's laboratory, where, under the guidance of a laboratory assistant, they conduct a laboratory study of industrial dust, toxic substances, microclimate and lighting of the premises. 5-6 students from the group also work in this group;

6) During the 2nd lesson, students, taking into account the research results of both groups, assess professional risks, establish benefits and compensations for workers engaged in heavy work, work with unfavorable, harmful and (or) dangerous and other special working conditions, provided for by law;

7) During the 3rd lesson, students are given additional information on the situation – production indicators (number of employees, incidence rate, periodic medical examination data, work shift timing, report forms with temporary disability of employees, duration of exposure to the relevant factor of the production environment and work process (in % or hours), etc.). Students are given the task of developing action plans to improve working conditions and prevent occupational diseases;

8) In the classroom, students present their own projects for solving the situation;

9) Reflection - summing up. Under the guidance of the teacher, all the solutions found are compared with each other and with the case prepared by the teacher himself, hypotheses are revised, and the results of the lesson are summed up.

Thus, students need opportunities to assess their knowledge, identify and fill gaps in knowledge, and integrate and apply knowledge to solve real problems as part of a team. As can be seen, the role of the PBL teacher is that of a mentor and facilitator who facilitates the discussion of problems, engages students in independent study of the subject, encourages their ideas and arguments, as a result of which students and the teacher create new knowledge together. All this contributes to the development of thinking skills to a higher level, allowing the development of individual abilities of each student.

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