

The Role Of The Tutor And Students In The Process Of Problem-Based Learning (Pbl)

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ABSTRACT

Problem-based learning (PBL) is the effective method for promoting student competencies in self-directed and collaborative learning, critical thinking, self-reflection and tackling novel situations. PBL develops clinical thinking and stimulates students to acquire knowledge through self-searching and analysis of medical information. Students take more active role trying to solve a practical problem. It becomes especially important at present time due to the transition of the educational process in the credit system. This article analyzes the results of a survey of students who study using the PBL method and describes the psychological and pedagogical aspects of the tutor's work as a "coordinator" in the process of problem-based learning, and provides practical recommendations for the work of the tutor in this role. It also describes the actions of the tutor when working in groups with different dynamics, which is the main task of PBL. The recommendations given in the article resulting from the study and analysis of studies and publications in the field of education and based on their extensive experience training in the methodology of PBL at the Astana Medical University (Nur-Sultan, Kazakhstan) and the Medical University of Karaganda (Karaganda, Kazakhstan). The paper also describes current practical approaches to teaching medical curricula in small groups with an emphasis on student-centered learning.

Keywords: problem-based learning, PBL, tutor, coordinator, medical education, student-centered learning, small groups.

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INTRODUCTION

Problem-based learning (PBL) is well established in medical education and beyond, and continues to be developed and explored. Challenges include how to connect the somewhat abstract nature of classroom-based PBL with clinical practice and how to maintain learner engagement in the process of PBL over time [1, 2, 3, 5, 13]. Problem-based learning is an interactive learning technology based on real or fictional situations, aimed not so much at mastering knowledge, but at forming new qualities and skills in students. Its main purpose is to develop the ability to develop problems and find solutions to them, learn to work with information [14, 15, 18, 19, 20].

At the same time, the emphasis is not on getting ready-made knowledge, but on their development, on the co-creation of the tutor and the student. It is a teaching method in which complex real-world problems are used as a means to help students learn concepts and principles, as opposed to directly presenting facts and concepts. In addition to acquiring theoretical knowledge of the course content, PBL promotes critical thinking, problem solving, and communication skills [6, 9, 11, 24, 30].

In addition to acquiring theoretical knowledge of the course content, PBL promotes critical thinking, problem solving, and communication skills [10, 12, 26, 28]. The leading role in all these processes is taken by the tutor-coordinator, assistant and guide of all students' hypotheses and ways to solve the problem set before them [4,7,8].

The purpose of the study: to determine the role of the tutor in the process of problem-oriented training and to give recommendations that increase his psychological and pedagogical competence when using this technique in the educational process of two Kazakh medical universities: Astana and Karaganda [16, 17].

RESEARCH METHODOLOGY

To analyze the work and assess the role of the tutor, we used the problem-oriented learning methodology proposed by Barrows H. S. et al. [1].

Howard Barrows defines the PBL from the specific attributes point of view peculiar to this method, who took part in the development of the PBL method at MacMaster University in Canada [1, 18, 26, 29]. Personal directivity, fixing learning process around the problem and orientation to work in small groups are characteristics of PBL, where the teacher acts as mediator. Capon, N. [3] determines PBL on the basis of the theoretical training principles, such as step-by-step creation of knowledge, meta-learning and context learning [3, 21, 22, 23, 27, 28]. Savin-Baden [25] systematizes the PBL models as follows: PBL for knowledge achievement, PBL for professional activity, PBL for interdisciplinary understanding and comprehension, PBL for interbranch learning and PBL for critical competences acquisition [3, 5].

The work used cases from the University of Saint George (SGUL). St George's University of London has a problem-based learning (PBL) curriculum for undergraduate courses using tradition [28, 29]. These cases were prepared by Dr. Ella Iskrenko and Professor Terry Poulton. 13 clinical cases were studied. The cases were changed, adapted and supplemented, taking into account the regulatory and legal acts of the Republic of Kazakhstan, the peculiarities of disease diagnosis and medical care, the nomenclature of medicines, ethnic and other traditions of the country.

Classes with students were held on the basis of two Universities in specialized rooms equipped with all necessary technical means. The tutors were certified PBL coaches Khamchiyev K.M., Batyayeva Y.Kh., Suleimenova F.M. and Sagimova G.K. [5, 14, 15, 17, 19].

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PBL technique has been tested in 4 groups of the 1st and 2nd course students. After the PBL tutorial students completed anonymous feedback questionnaires in which they reflect their attitude to the study by the PBL method. Scores are calculated by the point system, where 5 – strongly agree, 4 – agree, 3 – hard to say, 2 – disagree, 1 – completely disagree.

RESULTS AND DISCUSSION

Analysis of the questionnaires showed that 96.9% students liked performing classes using the new method, 3.1% filled in the column "Hard to tell" (Figure 1).

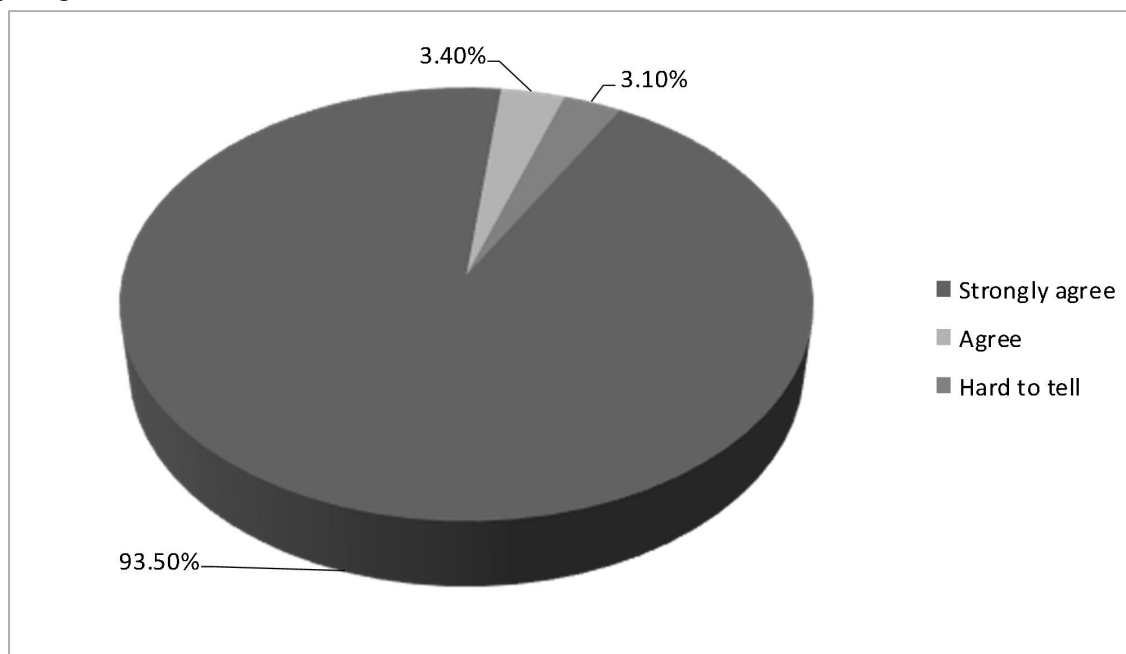


Figure 1. I like performing classes using PBL

According to all students (100%), PBL is a useful technique for more efficient assimilation of the subject (Figure 2).

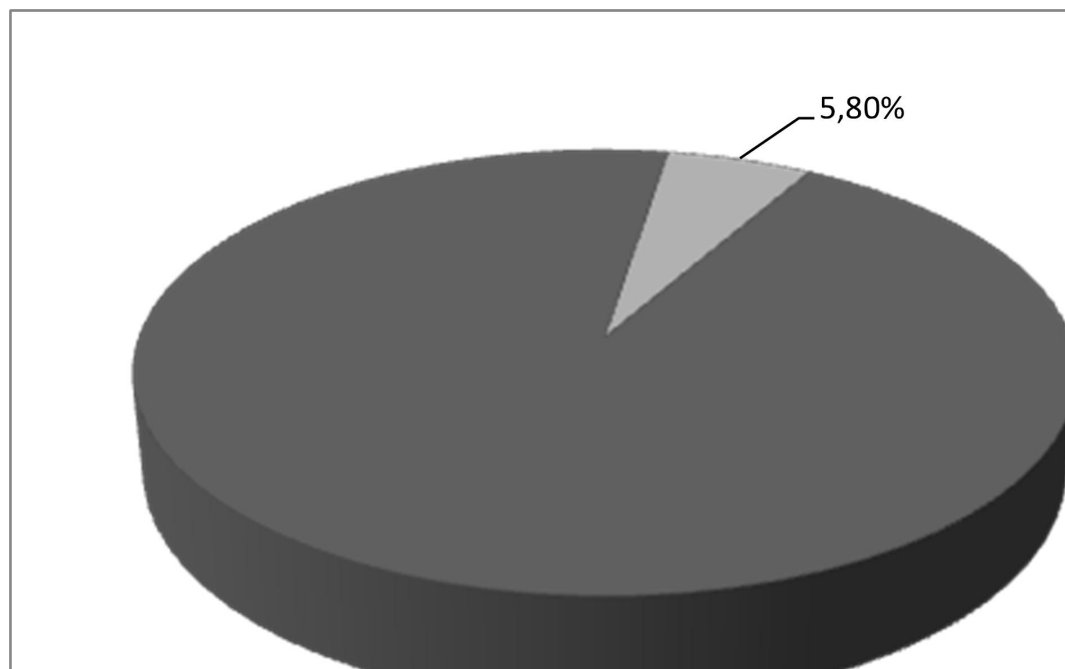


Figure 2. PBL is a useful technique for more efficient assimilation of the subject

67.9% preferred the approach and style of tutors' work (Figure 3).

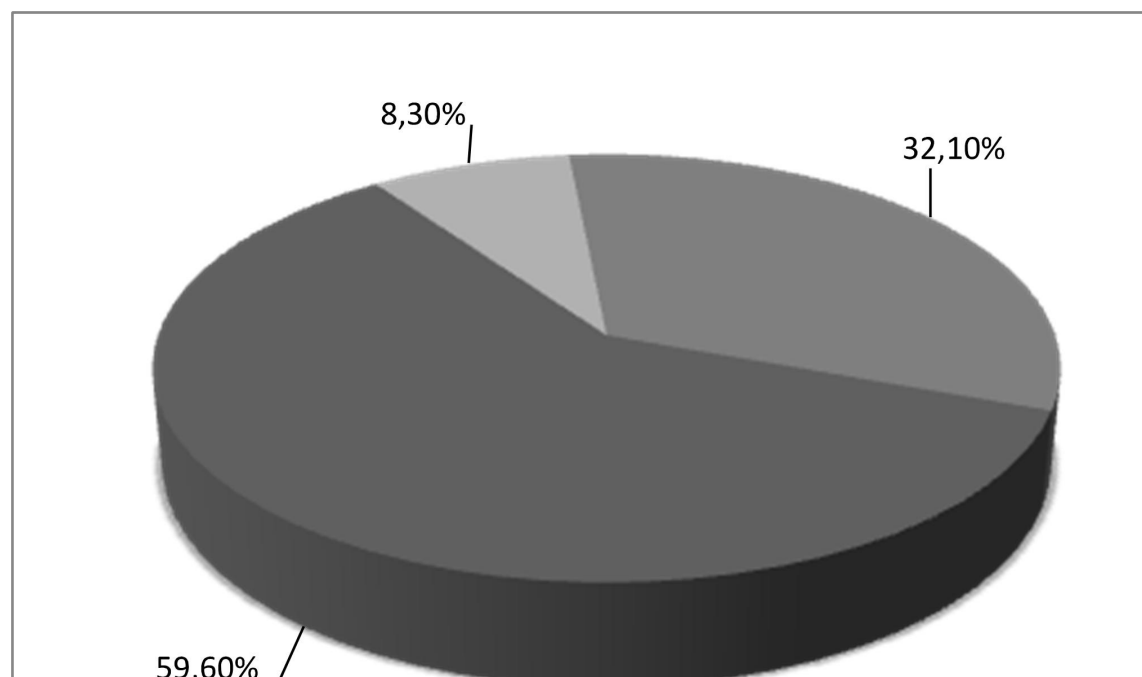


Figure 3. I preferred the approach and style of tutors' work

100% students liked to formulate independently questions for the further study (Figure 4).

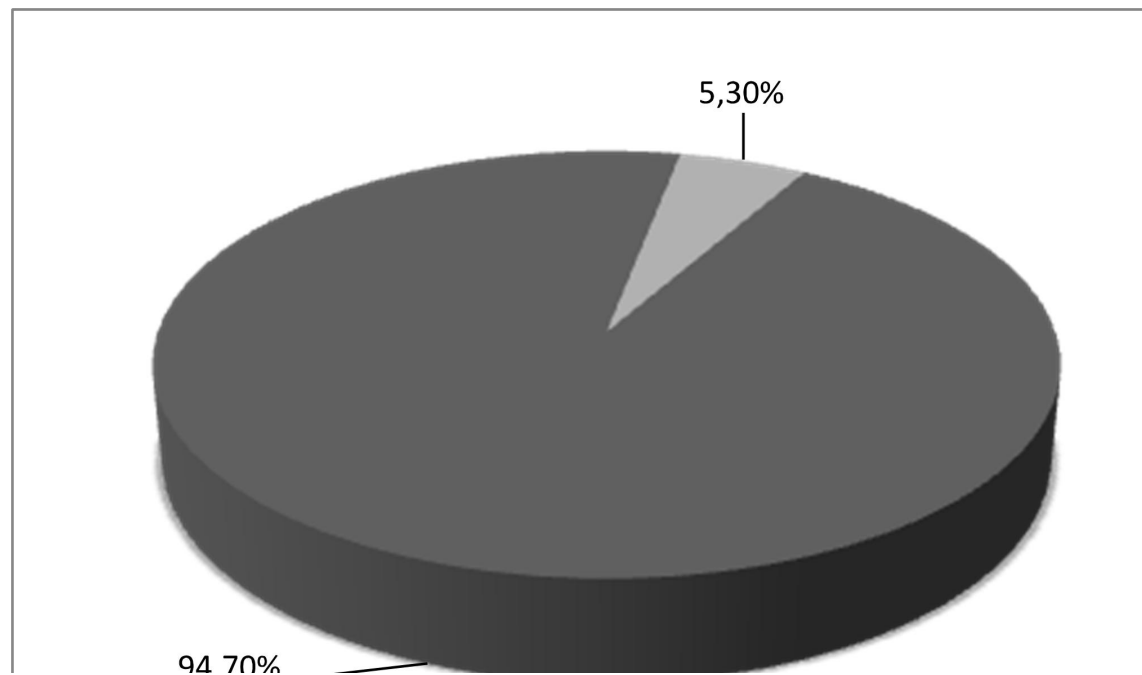


Figure 4. I like to formulate independently questions for the further study

93.8% agreed how our tutors encouraged discussion between the all members of the group, guided group (Figure 5).

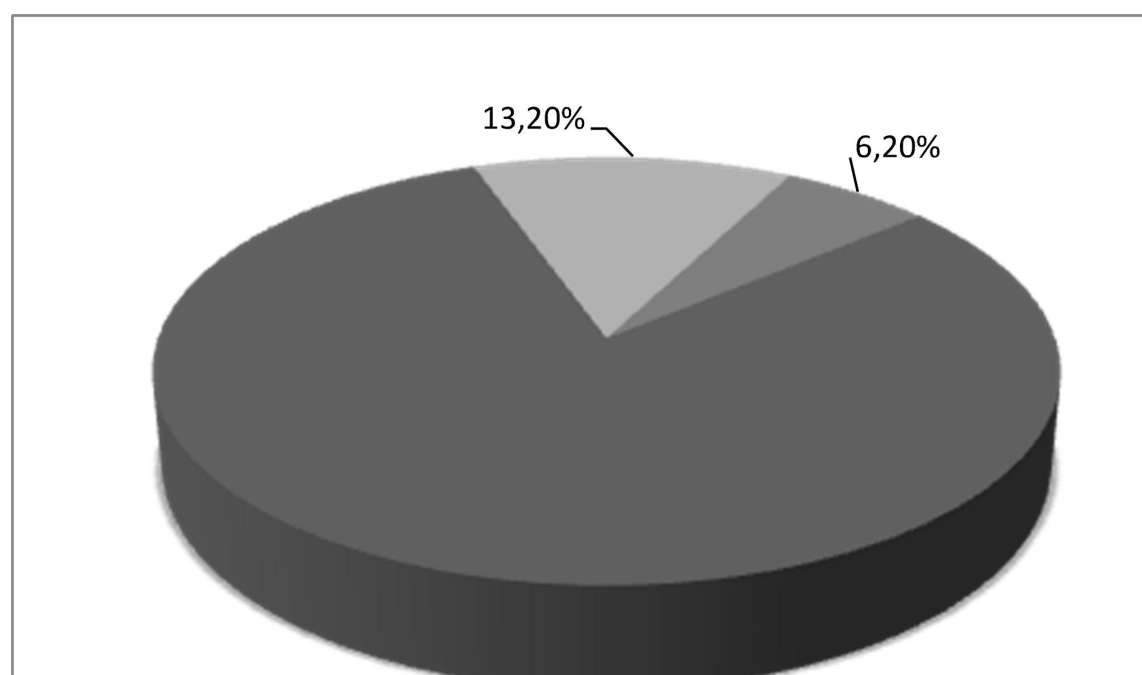


Figure 5. I agree with the way our tutors encouraged discussion between the all members of the group, guided group

Both students and tutors were pleasantly surprised with the extensive information about structure and functioning of an organism, diagnostic methods and treatment, patient's rights which can be derived while studying a simple clinical case. And that is especially important, to make training activity more fascinating. "It is very interesting for us. Highly motivates for individual study of the material. We feel ourselves like doctors and we neatly realize that the patient's life and health depend on the level of our knowledge and solutions", - students' opinion during the reflection which is carried out by the tutors after each class.

As mentioned above, for a small group focused on students, it is very important that students know that they are expected to perform many of the above roles. One of the most important tasks of the tutor is to set the "basic rules" in the group. Creating clear rules will allow students to focus on learning. These basic rules may include:

- Changing or canceling existing roles, i.e. students, not the tutor, will initiate and direct the discussion.
- "Formality", i.e. no one will speak again until everyone has spoken at least once; the tutor only speaks in response to a direct question and gives general instructions, not specific information.
- "Metapravila", i.e. the responsibility for the learning process lies with everyone, a time-out can be made at any stage and the effectiveness of the established rules can be assessed, and all the rules can be changed by general agreement, etc.

However, the more basic rules are introduced, the more likely it is that the learning process will flow into the game. This should also be monitored.

Motivation and interaction. Often during the discussion, students are reserved and, at best, make only a formal contribution to the dialogue. Quite talkative students outside the classroom, in the presence of a tutor, refuse to take an active part in the discussion. If the tutor acts as a coordinator, this may cause dissatisfaction, and the tutor cannot respond to this dissatisfaction by assuming the traditional role of leader.

The PBL class should include searching for new knowledge in a way that links it to previous courses/knowledge. When used for a group project, the problem requires a certain level of complexity to ensure that students must work together to solve it. When used for a multi-stage project, the initial steps of the task must be open and engaging to attract students to the problem. Problems can come from a variety of sources: newspapers, magazines, books, textbooks, and television/movies. Some of them are in such a form that they can be used with a little editing; however, others must be completely rewritten and adapted to the conditions of a particular country, taking into account legal acts, national traditions, moral and spiritual aspects. Choose a central idea, concept, or principle that is always taught in this course, and then think about a typical task, task, or homework assignment that is usually assigned to students to help them learn this concept. List the learning goals that students need to accomplish when they are working on a problem.

Think about the real context of the concept in question. Develop a narrative aspect for the end-of-chapter problem, or explore a real-life case that can be adapted by adding some motivation for students to solve the problem. More complex tasks will force students to go beyond simple "plug and pull" to solve them. Look at magazines, newspapers, and articles to find ideas for the storyline. Some PBL practitioners talk to professionals in this field, looking for ideas for a realistic application of the concept being studied.

This problem should be presented in stages so that students can identify learning issues that will lead them to explore the target concepts.

CONCLUSION

Due to the results of this research PBL is assumed to develop the student skills such as team work, improving leadership skills, ability to listen and participate actively in the discussion, collaboration and cooperation, respect of colleagues' views, ability to analyze and critically

evaluate literature, focused study and use of resources, mastery of presentation skills.

Thus, the implementation of PBL to the educational process providing tutors and students with necessary conditions for the development of their creative potential, training in small groups and personal oriented environment contribute to the improvement of medical personnel training quality, competences perfection of undergraduates, increase of competitiveness of the Kazakhstan experts in the world market of medical services.

TAKE-HOME MESSAGE

Interdisciplinary approach in PBL becomes very relevant because students can see the close relationship between the basic sciences, as well as to understand their practical value in clinical practice.

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CONFLICT OF INTEREST

The authors stated that there is no conflict of interest.

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