Received: 12 December 2020 / / Accepted: 29 January 2021 / Published online: 30 March 2021

DOI10.34689/SH.2020.22.6.008

УДК 378.14:61

APPLICATION OF TEAM-BASED LEARNING IN THE DISCIPLINE "RHEUMATOLOGY" IN THE CONDITIONS OF DISTANCE LEARNING

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Abstract

The article provides an analysis of feedback of 4th year students of the general medicine faculty of NJSC "Medical University Semey" on the use of team-based learning in the discipline "Rheumatology".

The research is simple cross-sectional. At the end of the study of the discipline "Rheumatology" a survey of 4th-year students of the "General Medicine" Faculty was conducted. A total 52 student were interviewed. The average age was 21.5 ± 0.25 years. The survey was held using the internet resource - Google Forms. Students were asked to anonymously answer to 7 questions concerning the organization and conduct of classes using the TBL methodology in a distance format. In general, the survey showed that in most cases students are interested in a lesson on TBL technology, cases and practical skills were the most difficult to students, but solving solving them helps to increase students' self-assessment , motivate them to self-education and teamwork. Team learning technology has a number of advantages over traditional methods: individual and group responsibility, it contributes to the development of communication skills, teamwork skills and the development of professional competencies, allows for more efficient search for information, develops critical thinking. Thus, this teaching method can be actively used for teaching undergraduate students of medical universities, including in a distance format.

Keywords: *TBL - team teaching method; practical classes, students, medical university, distance learning.*

Резюме

ПРИМЕНЕНИЕ КОМАНДНО-ОРИЕНТИРОВАННОГО ОБУЧЕНИЯ НА ДИСЦИПЛИНЕ «РЕВМАТОЛОГИЯ» В УСЛОВИЯХ ДИСТАНЦИОННОГО ОБУЧЕНИЯ

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В статье приведен анализ обратной связи студентов 4 курса общемедицинского факультета НАО "Медицинский университет Семей" о применении командно-ориентированного обучения на дисциплине «Ревматология».

Исследование простое поперечное. Проведено анкетирование студентов 4 курса факультета «Общая медицина» по завершении изучения дисциплины «Ревматология». Всего было опрошено 52 человека. Средний возраст составил 21,5 ± 0,25 лет. Анкетирование проводилось с использованием интернет - ресурса GoogleForms. Обучающимся предлагалось анонимно ответить на 7 вопросов, касающихся организации и проведения занятия по методике TBL в дистанционном формате. В целом опрос показал, что в большинстве случаев студентам занятие по технологии TBL интересно, кейсы и практические навыки вызывают наибольшие трудности, решение их позволяет повысить самооценку студентов, мотивировать их к самообразованию и командной работе. Технология командного обучения имеет ряд преимуществ перед традиционными методами: индивидуальную и групповую ответственность, способствует развитию коммуникативных навыков, навыков работы в команде и освоению профессиональных компетенций, позволяет более эффективно проводить поиск информации, развивает критическое мышление. Таким образом, данный метод обучение может активно использоваться для обучения студентов бакалавриата медицинских ВУЗов, в том числе и в дистанционном формате.

Ключевые слова: *TBL - командный метод обучения; практические занятия, студенты, медицинский университет, дистанционное обучение*

Түйіндеме

КОМАНДАҒА-БАҒЫТТАЛҒАН ОҚЫТУ ТҮРІН «РЕВМАТОЛОГИЯ» ДИСЦИПЛИНАСЫНДА ҚАШЫҚТЫҚТАН ОҚЫТУ ЖАҒДАЙЫНДА ҚОЛДАНУ

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Мақалада КеАҚ "Семей медицина университеті" жалпы медицина факультетінің 4 курс студенттері арасында ревматология пәнінде командаға-бағытталған оқыту түрін қолдану бойынша кері байланыстың талдауы келтірілген.

Зерттеу қарапайым көлденең. "Жалпы медицина" факультетінің 4 курс студенттеріне "Ревматология" пәнін оқу аяқталғаннан кейін сауалнама жүргізілді. Барлығы 52 адам сұралынды. Орташа жасы 21,5 ± 0,25 болды. Сауалнама Google Forms интернет-ресурстын пайдалана отырып жүргізілді. Білім алушыларға қашықтықтан TBL әдістемесі бойынша сабақты ұйымдастыруға және өткізуге қатысты 7 сұраққа анонимді түрде жауап беру ұсынылды. Жалпы, сауалнама көрсеткендей, көп жағдайда студенттерге TBL технологиясы бойынша сабақ қызықты, кейстермен практикалық дағдылар қиындық тарту ғызады, оларды шешу студенттердің өзін-өзі бағалауын арттыруға, оларды өздігінен білім алуға және топтық жұмысқа ынталандыруға мүмкіндік береді. Топтық оқыту технологиясы дәстүрлі әдістерге қарағанда бір қатар артықшылықтарға ие: жеке және топтық жауапкершілік, қарым-қатынас дағдыларын, командада жұмыс істеу дағдыларын дамытуға және кәсіби құзыреттерді игеруге ықпал етеді, ақпаратты тиімді іздеуге мүмкіндік береді, сыни ойлауды дамытады. Осылайша, оқытудың бұл әдісі медициналық жоғары оқу орындарының бакалавриат студенттерін, оның ішінде қашықтықтан оқыту форматында оқыту үшін белсенді пайдаланылуы тиімді .

Түйінді сөздер: *TBL-командалық оқыту әдісі; практикалық сабақтар, студенттер, медициналық университет, қашықтықтан оқыту.*

Библиографическая ссылка:

Petrova Yu.V., Auleisova S.K., Nurushev T.K., Madeniyetbekkyzy M. Application of team-based learning in the discipline "Rheumatology" in the conditions of distance learning // *Nauka i Zdravookhranenie* [Science & Healthcare]. 2021, (Vol.23) 1, pp. 65-68. *doi 10.34689/SH.2021.23.1.008*

Петрова Ю.В., Горемыкина М.В., Аулейсова С.К., Нурушев Т.К., Мәдениетбекқызы М. Применение командно-ориентированного обучения на дисциплине «Ревматология» в условиях дистанционного обучения // Наука и Здравоохранение. 2021. 1(Т.23).С. 65-68. *Doi 10.34689/SH.2021.23.1.008*

Петрова Ю.В., Горемыкина М.В., Аулейсова С.К., Нурушев Т.К., Мәдениетбекқызы М. Командаға - бағытталған оқыту түрін «Ревматология» дисциплинасында қашықтықтан оқыту жағдайында қолдану // Ғылым және Денсаулық сақтау. 2021. 1 (Т.23). Б. 65-68. *Doi 10.34689/SH.2021.23.1.008*

Introduction

Over the past decades, innovative pedagogical technologies have been widely used in the field of medical education, allowing for more productive use of educational resources to achieve the desired learning outcomes. One of these interactive learning methods is team-based learning (TBL), which allows students to improve their teamwork and communication skills [3].

TBL was first used by Larry Michaelsen, a professor of the Department of Business at the University of Oklahoma in the 1970's, and has been successfully implemented into the curriculum of many medical schools of United States. Currently, team-based learning is actively uses in all medical universities in Kazakhstan [4].

In the NJSC "Medical University Semey" this method is successfully used in many basic and clinical departments. TBL is a method that focuses students on understanding the ultimate goal of studying the course, helps to develop the skill of applying theoretical knowledge in practice. Working in a team helps to understand and assimilate problematic issues, promotes the development of mutual cooperation in solving problems and develops leadership qualities.

On March 11, 2020, the World Health Organization (WHO) announced a pandemic of a new coronavirus infection. Due to the unfavorable epidemiological situation, all educational institutions have switched to a distance learning format, including the Medical University Semey.

Aim of the study: To study the opinion of 4th year students of the NJSC "Medical University" on the use of command-oriented teaching in the discipline "Rheumatology" in the context of online learning.

Materials and methods of research

The research is simple cross-sectional. A survey of 4th year students of the Faculty of General Medicine was carried out upon completion of the study of the discipline

"Rheumatology". A total of 52 people were interviewed. The average age was 21.5 ± 0.25 years. The survey was conducted using the Google Forms Internet resource. Students were asked to anonymously answer 7 questions related to the organization of a TBL lesson:

1. What competencies, in your opinion, can be developed by using the team-based learning technology in the classroom?
2. Have you had any difficulty getting ready for TBL?
3. What part of your team-based learning class do you like best?
4. What part of TBL do you think is the most difficult?
5. Do you enjoy practical exercises with TBL technology? If not, why not?
6. Do you consider classes using TBL technology more effective than traditional forms (lectures, oral questioning)?
7. Do you find TBL classes effective for distance learning?

Research results and discussion

To the question "What competencies, in your opinion, allows developing the use of team-based learning technology in the classroom?" the answers were distributed as follows: “teamwork” - 90% of the respondents, “information search / scientific research skills” - 85%, “clinical thinking” - 80% of the respondents, “communication skills” - 90%. Only 6% of respondents believed that TBL classes do not develop any competencies. 22% of students experienced difficulties in preparing for classes. The main reasons are lack of time, overloaded schedule, insufficient provision of educational and methodological materials, and poor Internet connection.

When answering the question "What part of the TBL session does you like more?" 42% of students indicated the stage of discussing a clinical case, 22% - skill development, 14% - group testing, 10% - individual testing, 12% - final individual test. At the same time, the majority of students noted that the stages of solving a clinical case and practicing practical skills are also the most difficult (32% and 29% of respondents, respectively).

More than half of the respondents (68%) noted that they like classes on the technology of team-oriented learning. Among the comments, the following can be distinguished: “It is important to defend your point of view in a team, but at the same time not to offend others”, “You feel responsibility to your comrades”, “There is an interest in studying the topic”, “I did not prepare for the lesson, but in the end I understood all the material during the discussion". 10% of respondents found it was difficult to answer. 22% of students said, that they didn't like TBL; the most frequent comments are: “I only want an individual assessment, I don’t want to depend on students who are not prepared for classes”, “I don’t want to be responsible for other students”, “Some strong students cannot defend a point of view” and “Limited time for completing each stage of the task”.

According to the test results, 94% of students consider Team-based learning to be more effective compared to traditional classes, 5% of respondents prefer to attend lectures, 1% found it difficult to answer.

At the stage of preparation for TBL sessions, the staff of the Department of Rheumatology and Noncommunicable Diseases is developing a block of test tasks of a high cognitive level (for understanding and application) for conducting individual testing (IRAT-individual readiness assessment test). Clinical cases are also being prepared for discussion with students. Currently, the department has methodological blocks on such topics as: "Rheumatoid arthritis", "Osteoarthritis", "Gout", "Reactive arthritis". These nosologies have a high final level of development according to the catalog of the final learning outcomes of students of the specialty "General Medicine".

The catalog was developed by the faculty of the NJSC "Semey Medical University", provided by the research community of the University "Bashkent", Ankara; it is used by the integrated educational program implemented in NJSC "SMU" since the 2019 academic year. The catalog includes 173 symptoms and clinical conditions, 367 nosologies, 168 medical procedures and manipulations, which must be mastered by a graduate of our medical university. To help students in mastering practical skills, videos are being shot - so, to date, 8 videos have been created (in the Kazakh, Russian, English languages). These video materials, after receiving a positive review, were uploaded to the university's YouTube channel and are used by students in preparation for classes.

The last stage of preparation of the class using TBL was the development of a questionnaire to assess the effectiveness of the use of Team-based learning technology in the study of the discipline "Rheumatology" according to student’s opinion.

The methodology for conducting a practical lesson using TBL includes the following main stages:

1. Extracurricular training (before class), which includes independent study of the material by students, work in the library, with Internet resources, watching training videos;
2. Individual testing at the beginning of the lesson; its percentage in the final assessment is 40%;
3. Group testing; its percentage in the final assessment is - 25%;
4. Appeal; 5% of the final score;
5. Solving a clinical case / demonstrating practical skills with interpretation of the received results; 25% of the final score;
6. Final individual test; its percentage in the final assessment is - 5%.

Individual testing is carried out according to the options on-line in the programs "Kahoot" or Google Forms,with required and immediate feedback from the teacher. The duration of this stage is about 10-15 minutes. Then groups of 5-7 people are formed. One of the conditions for working in a team is the correct selection of students. The team is selected in such a way that it includes students with different levels of knowledge, both strong and weaker.Only if this rule is followed, the desired result is achieved – the development of communication skills, the ability to provide and accept help in a difficult situation. [3]. Students work online through the ZOOM, GoogleMeet platforms in groups on their own.

A group testing (TRAT-team readiness assessment test) is conducted using the MSQ for individual control, while students discuss tasks and look for solutions in recommended sources. The principle of group appeal with justification: the team discusses the results obtained during group and individual testing, they re-analyze the tasks and

the answers given by them, and eventually file an appeal on controversial questions.On average, 20-30 minutes are given for students group test and an appeal. Next, the teacher explains to the students about the concepts that they had to face during the team test.At the end of this explanation, students should be sure that they are ready to solve more complex tasks awaiting them at the next stage [1,2].

The next part of the lesson is the most time-consuming. For discussion, the group is offered a clinical case, as close as they can be possible to real practice. All cases have packages of the results of additional examinations (tests, X-rays, ECG tapes, etc.).The task of students is to interpret clinical and laboratory-instrumental data, calculations, forecasts, analysis and synthesis of the information provided in order to make a diagnosis and determine the tactics of treatment of the patient.Each group presents detailed answers (including diagrams, tables, logical structures) in the form of a "Mind Map" or in a PowerPoint presentation. Speaker of each group report on the results of team work at a general online meeting.The overall score is assigned to the group. At this stage, the skills of knowledge acquired by students in basic and clinical disciplines were well developing. When summing up the results of the lesson, the points scored by the students are counted, and the teacher explains to each of them what the points were awarded for; an Excel table with all the grades received at different stages of the lesson is shown, and it turns out whether the student has any objections.

The last stage is a survey of students on the subject of satisfaction with the educational process.

Conclusion:

The survey showed that in most cases, students are interested in studying TBL technology, cases and practical skills were the most difficult to students, but solving them allows them to increase their ' self-esteem, motivate them to self-education and teamwork.

The technology of team training has a number of advantages over traditional methods: individual and group responsibility, it promotes the development of communication skills, team work skills and the development of professional competencies,allows for more efficient search for information and it develops their critical thinking.

According to this, the TBL method will be actively used in conducting classes in the discipline "Rheumatology".

Funding: *There is no financial support and sponsorship.*

Conflict of Interest: *The authors declare that they have no conflict of interest.*

Contribution of the authors to the study:

Petrova Yu.V. – Literature search, writing a review, developing ideas and concepts;

Goremykina M.V. – methodologically assessing the quality of the articles included, writing a review;

Auleisova S.K - literature search, writing a review;

Nurushev T.K. - literature search, writing a review;

Madeniyetbekkyzy M. - literature search, writing a review.

Financing: During this work, there was no funding from outside organizations and medical missions.

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