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EXPERIENCE IN INTRODUCING A NEW INTERACTIVE FORMAT OF LECTURES AT CLINICAL DEPARTMENTS AND THE ATTITUDE OF STUDENTS TOWARDS THEM

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Ключевые слова: *медицинское образование, технологии обучения, лекционные занятия, интерактивное обучение, активное обучение, проблемно-ориентированное обучение*

Abstract. Experience in introducing a new interactive format of lectures at clinical departments and the attitude of students towards them. Yaremenko O.B., Dobrianskyi D.V., Tarchenko I.P., Meliksetian A.V., Fedkov D.V. *The modern model of education and the present conditions demand of the teacher to choose the latest teaching methods. The teacher is no longer the main source of information, he should manage education, implementing competence-based study methods. In order to achieve this, the latest teaching methods are introduced in O.O. Bogomolets National Medical University with the new lecture style. Changing the lecture style at medical universities and, in particular, using modern lecture educational technologies provide important conditions for improving training of future doctors. As experience of O.O. Bogomolets National Medical University shows, this provides opportunity for turning traditional lectures into interactive lessons to increase students' interest, to provide improved material perception through the dialogue between the lecturer and students. The article presents the results of surveys of 387 students conducted at the department of internal medicine N 3, as well as generalized information regarding students' evaluation of changes in the lecture style and the implementation of new training methods in A.A. Bogomolets National Medical University. According to the survey results, most students are satisfied with the quality of the updated lecture style at the therapeutic departments. The main characteristics of the lectures that teachers need to pay attention to in order to improve the lecture quality have been analyzed separately. In the view of the students, the best features of the lectures are: actuality, availability of material, structure and laconicism, informativeness, interactivity, video footage using, practical orientation of the presentation, illustration and sufficient number of visuals, an opportunity to be engaged in dialogue with the lecturer. Students find traditional attendance control useless, the majority of respondents supported free lecture attendance.*

Реферат. Опыт внедрения нового интерактивного формата проведения лекционных занятий на клинических кафедрах и отношение к ним студентов. Яременко О.Б., Добрянский Д.В., Тарченко И.П., Меликсетян А.В., Федьков Д.Л. *Современная модель образования требует от преподавателя перехода на новые методы обучения. Преподаватель перестает быть основным источником информации, а превращается в организатора образовательной деятельности и должен реализовать компетентностный подход в обучении. С этой целью в Национальном медицинском университете имени А.А. Богомольца внедряются новейшие учебные методики и меняется формат проведения лекционных занятий. Изменение формата лекции в медицинском вузе и, в частности, использование современных лекционных учебных технологий является важным условием повышения качества подготовки будущих врачей. Как показывает опыт Национального медицинского университета имени А.А. Богомольца, они позволяют превратить традиционные лекции на интерактивные занятия с повышенной заинтересованностью в них студентов, обеспечить более активное восприятие материала, в том числе из-за возможности диалога лектора со студентами. В статье приведены результаты опросов 387 студентов, которые были проведены на кафедре внутренней медицины №3, а также обобщенная информация по Национальному медицинскому университету имени А.А. Богомольца по оценке студентами изменения формата лекционных занятий и внедрению новых методов обучения. Согласно результатам анкетирования, большинство студентов довольны качеством обновленного формата лекций на кафедрах терапевтического профиля. Отдельно проведен анализ основных характеристик лекций, на которые нужно обратить внимание преподавателям для улучшения качества лекционных занятий. По мнению студентов, лучшими характеристиками лекций являются актуальность, доступность материала, структурированность и лаконизм, информативность, интерактивность, использование видеоматериалов, практическая направленность материала, достаточное количество визуальных материалов, возможность вести диалог с лектором. Студенты считают, что традиционный контроль за посещением нецелесообразен, большинство респондентов были сторонниками свободного посещения лекций.*

Higher education in Ukraine and especially medical education is in the process of reform, which determines the search for new forms and technologies of education.

The basis of training is not only to provide students with content knowledge and skills accumulated in previous years, but also the need to promote the formation of future doctors' clinical thinking, ability to perceive and use in practice new scientific ideas and modern technical capabilities [5, 6].

Today, one of the important educational problems is the gap between the perception of life by students and teachers of the older generation [1, 9].

The generation of students of the XXI century was formed under the conditions of new technical and informational opportunities, and under these circumstances the lecture, as a traditional form of education in higher medical institutions, ceases to be an obligatory source of information [4, 8]. On the other hand, the classical system of higher medical education is not able to completely solve the problem of practical training of modern doctors. The main obstacles in this way are the lack of constant feedback between student and teacher, insufficient practical orientation of learning due to the wide involvement of testing and traditional emphasis on theoretical knowledge during practical classes and

during control activities [5, 7]. Additional difficulties – a large number of students in the group undergoing studying clinical departments, reducing the opportunities for unimpeded contact of students with the patient due to the expansion of the network of commercial medical institutions, some of which are bases of clinical departments, increase in the level of autonomisation of state/municipal medical facilities, increasing the degree of awareness of citizens of their rights as patients.

Given the combination of such modern trends, medical education should primarily promote motivation to learn, the formation and development of abilities for self-learning, memorization, systematization of learned material and the ability to use this knowledge in practice [3]. The introduction of a competency-based approach to learning requires renewal of the learning process towards increasing the role of independent work of students and practical training, including by reducing classroom sessions and modifying their content. The lecture process needs to be reformed with an emphasis on an interactive approach that should stimulate the student's creative activity. The interactive lecture makes it possible to combine the leading role of the lecturer with the high cognitive activity of the student, in particular by maintaining a dialogue, two-way communication between the lecturer and the student audience. It is desirable that the form of presentation of lecture material is not limited to a multimedia presentation, but includes audiovisual components, videos, graphic or schematic representation of the problem, etc. [3]. But this process is not easy, it largely depends on the professionalism of the lecturer, his/her willingness to use new educational technology.

The purpose of the work is to analyze the results of the introduction of a new format of lectures at the therapeutic departments of O.O. Bogomolets NMU taking into account the data of questionnaires of senior students of medical faculties.

MATERIALS AND METHODS OF RESEARCH

Changes in the format of lectures at the clinical departments of O.O. Bogomolets NMU are analyzed. Duration, structure, visualization material, interactivity with the simultaneous creation of additional educational videos was carried out during 2018-2019 based on the study of the experience of medical universities of Europe and the results of survey of 2139 students 3-6 courses of medical faculties which was conducted in 2017. To assess the effectiveness of the introduction of a new format of lectures, an online survey of students of all clinical departments of therapeutic profile was conducted on the subject of satisfaction with the

quality of updated lectures and their 45-minute format. In addition, in order to in-depth analyze the effectiveness of reformatting lectures and areas of further optimization of this type of educational activity 5th year students of two medical faculties who were studying at the Department of Internal Medicine No. 3 in February-March and September-October 2019 were surveyed (Table). In processing the obtained survey data, the generally accepted methods of descriptive statistics were used, the results are given in the form of absolute values and percentages.

RESULTS AND DISCUSSION

Given the modern technical capabilities of communications and the level of development of modern youth, their worldview, teaching staff of O.O. Bogomolets NMU is constantly working on improving teaching methods. The process of adapting one's own educational programs to the leading European medical universities is being introduced. One of the directions of such work is to change the format of lectures. In 2017, a survey of 2139 students of 3-6 courses of medical faculties on possible ways to improve the quality of lectures in clinical disciplines was conducted and the attitude of students to lectures was analyzed.

The survey showed that in general, students appreciate the usefulness of lectures, most of them (66.8%) believe that they receive about 50% of the study material from lectures. The majority of surveyed students (68.4%) believe that lectures in oral form at clinical disciplines are needed, but the format need to be changed. Students consider that the main shortcomings of the previous, traditional format of lectures are: duplication of information from textbooks/manuals, lack of specific clinical examples, scant feedback between the audience and the lecturer.

The result of this survey was the development of new requirements for lectures. They were based on the best trends in modern, primarily medical, education. The main emphasis was placed on the following models of learning: active learning, which envisages subject-objective communication with the preference given not to a group of people as an object of study, but personally to each of its representatives; interactive learning, which is based on the idea of the equality of rights of those who teach and those who learn, with mandatory feedback from the student, his interested participation in the planning and organization of educational activities, choosing ways to learn the material, when to a greater extent the teacher acts as an organizer and coordinator of independent learning; case method, which uses real situations, clinical cases for creative

testing of algorithms of specific actions, including under conditions of time constraints; problem-oriented learning approach, in which the stimulus to

learning are real problems, in the process of collective solution of which new knowledge and skills are acquired.

Questionnaire for assessing the updated format of lectures by students

The criterion being evaluated	Evaluation (choose one of the suggested answer options)						
	I do not agree - 1	not at all I agree - 2	I agree - 3	absolutely I agree - 4			
The lecturer spoke with enthusiasm							
Interaction with the audience was active							
The information is provided in a structured way							
Sufficient clinical cases and illustrations have been used							
The information is aimed at practical use							
Audiovisual means are used enough							
The amount of information corresponded to the duration of the lecture							
The complexity of the lecture met my expectations							
General evaluation of the lecture	did not like 1	did not quite like it 2	almost liked it 3	I liked it 4	liked it a lot 5	over-custom-liked 6	could not be better 7
What are the best features of this lecture?							
Name the characteristics that you would like to improve							
Do you generally approve of the updated 45-minute lecture format	So - 1			No - 2			
Do you want to return to the previous 90-minute lecture format?	So - 1			No - 2			
Do you approve of the traditional control over attending lectures?	So - 1			No - 2			
Do you consider it appropriate to introduce free lecture attendance?	So - 1			No - 2			
If the answer to the previous question is "Yes", explain your position							

First of all, the changes affected the duration of lectures which now last for 45 minutes. Mandatory requirements for the structure of lectures were the formulation of the main (3-4) learning objectives,

subordination of further information material to them, simplification and ease of perception of slide material (font size and color, number of lines in the text, etc.), inclusion of clinical cases, questions for

discussion, formulation of the main semantic results. During the interactive presentations, a variety of videos are used, clinical analysis of typical errors and misstatements, justification of the correct sequence of actions in the diagnosis and care is performed. The lecture is held in the form of a conversation with the active participation of students, when students have the opportunity to express their views.

The organization of training on an innovative basis also requires the availability of modern technological capabilities and appropriate equipment. In order to increase the efficiency of the educational process, to promptly receive feedback from students, to involve the audience in the dialogue, the NMU has introduced a system of interactive voting during lectures.

In addition, each clinical department of O.O. Bogomolets NMU during the academic year created at least 4 educational videos with the following cross-review. The main task of this work was to give students the opportunity to get acquainted with complex fragments of educational material, in a simplified form, in a short time in video format especially those that need visualization, which are not given enough attention in lectures and practical classes or covered too extensively in educational literature. All videos were freely available on the Youtube channel of the NMU TV.

Reading the lecture involves a dialogue mode, while the lecturer makes efforts to maximize the involvement of students in discussing the problem, which is especially effective in terms of prior independent acquaintance of students with teaching materials on the topic of lectures, posted on departmental Internet resources.

The combination of lecturer's comments with video information which can demonstrate clinical manifestations of diseases, methods of examination of patients or modern diagnostic equipment, significantly increases students' attention. Of great importance for improving the efficiency of mastering the lecture material is the involvement of clinical analysis of situational tasks in the lecture with a mandatory dialogue in the form of "question – answer" or multiple choice tests.

In order to introduce a modern standard of lecturing a series of trainings for teachers in small groups were organized and conducted by the leadership of O.O. Bogomolets NMU [1].

The effectiveness of the introduction of a new format of lectures was analyzed at a meeting of the cyclic methodological commission on therapeutic disciplines in 2019. To do this, each clinical department of therapeutic profile conducted a survey of

students, which included questions about satisfaction with the quality of updated lectures, approval of their new 45-minute format.

According to the results of the survey, to which 1146 people responded, the vast majority of students (91.8%) are satisfied with the quality of updated lectures at the departments of therapeutic profile of NMU named after O.O. Bogomolets and 94.2% of respondents support their new 45-minute format.

After the introduction of a new format of lectures at the department of internal medicine No. 3, students were surveyed about their attitude to the updated lectures through interactive online voting, during which the students with the help of smartphones in the lecture hall answered questions, having refused an anonymous survey in paper format, which was traditionally conducted to obtain feedback. The results of the survey of 387 students were obtained with an assessment of the quality of four lectures, 4 students did not want to participate in the survey. In practical classes, a large number of students expressed a desire to provide arguments for their answers to questionnaires.

According to the results, the enthusiasm of the lecturer and his active interaction with the audience (answer options "Agree" and "Absolutely agree" in total) was noted by 92% and 89.9% of respondents respectively. Also, students highly rated the structure (96.1% of respondents), the adequacy of the use of audiovisual media (89.9%), the practical orientation of the lecture material (91.7%) and the complexity of the lecture material to the expectations of students (94.8%). The assessment of the correspondence of the provided factual material to the duration of the lecture was somewhat more restrained – 84.2% of positive answers. At the same time, every tenth respondent would like to see an even greater number of clinical illustrations in the lecture: 10.3% of students did not agree or did not agree at all with the assessment "Enough". The general assessment of the new format of lectures was quite optimistic: 98.4% of respondents chose the answers from "Like" to "Couldn't be better", among the negative answers there was only the option "Almost liked" (1, 6%).

Analyzing the results of the "free" component of the survey, according to students we can note the following best characteristics of lectures (at least 10 students considered it necessary to note): relevance, accessibility of material, structure and laconism, informativeness, interactivity with the possibility of conducting dialogue with the lecturer. Respondents also highlighted the sufficient illustration and successful use of video materials, practicality and clinical focus of the lecture material.

Characteristics of lectures that students would like to improve: audience comfort; increase in the number of clinical cases; optimization of the correspondence of the duration of the lecture to the bulk of educational material; quality (insufficient brightness in the absence of dimming) of the image from the projector. Other wishes of students: it is expedient to have a microphone in the audience for better contact with students; change the form of control over the presence of students at lectures; to submit less statistics and complex graphs. It is clear that some of these remarks are "regional" (specific to a particular institution, department, lecture audience), but, in our opinion, in general, this indicates a conscious, responsible, interested attitude of students to lectures as one of the important components of teaching process and, accordingly, should be an incentive for further improvement of this form of educational activity.

Almost all our students (95.1%) noted that they like the modern 45-minute lecture format. Respondents positively perceive the demonstration of lecture material mainly in the form of concise diagrams, tables, graphs, where possible, to replace the text as much as possible. Students evaluate the lecturers' "dependence" on the presentation very negatively. The free possession of lecture material, interaction with the audience, structure, laconism of information, use of audiovisual means and demonstration of clinical cases were highly appreciated by students. According to some students, the duration of lectures in some cases may vary depending on the bulk of material.

When asked whether students want to return to the old 90-minute lecture format, 93.3% of respondents answered "No".

The question of compulsory attendance of lectures provokes a mixed reaction from students and teachers. According to the results of the survey of 24 staff members of the department, most of them (22) hold the opinion that it is obligatory for students to attend lectures because of insufficient motivation of the latter to study. At the same time, 88.9% of students believe that the traditional control over attendance, which is carried out during lectures, is not appropriate. The majority of respondents were supporters of free attendance (85%), but noted that if the lecturer is a bright and charismatic person, a

professional in one's field, accessible and easy to teach complex material, respectfully contact the audience, then they will attend such lectures without any coercion. At the same time, in the process of communication, they give examples of bright lecturers, lectures that they would attend with great pleasure. But the question arises: how can students know and evaluate the professionalism of the lecturer without attending his/her lectures? Experience shows that in the complete absence of control over the attendance of lectures read by a famous professor, his paid lectures gather large attendance of doctors, but students show a poor attendance. Understanding the incomplete correctness of such a comparison (primarily due to motivational differences), we believe that under the current conditions, the cancelling of control over students' attendance of lectures is premature. The prospect of a positive solution to this issue is closely related to increasing motivation of students to study, which is possible only at the state-level of solving medical, social, economic problems.

CONCLUSIONS

Changes in the format of lectures in higher medical education establishments and, in particular, the use of modern educational technologies are an important condition for improving the quality of training of future doctors. As the experience of O.O. Bogomolets NMU testifies, it is possible to turn traditional lecture format into interactive classes with increased interest of students, to ensure a more active perception of the material through the possibility of dialogue between the lecturer and students. The new format of lectures combines the best traditions of modern world medical education – active, interactive, problem-oriented, it includes a case-method of teaching, i.e. provides a basis for strengthening practice-oriented training of future doctors. According to the results of the survey, most students are satisfied with the quality of the updated format of lectures at the departments of the therapeutic profile of O.O. Bogomolets NMU. The issue of mandatory control of lecture attendance needs further monitoring.

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