

# Prospects for the involvement of modern student youth in scientific research activities

Sh.Sh.Narzullayev

Maftuna Zokhidzhonovna Ravshanova

Samarkand State Medical University

**Abstract:** Medical students must have a large amount of theoretical knowledge and practical skills. All this is especially difficult in the first and second years of higher medical education, since it is necessary to find the right approach to learning and fruitfully manage the latest opportunities of the educational institution. Due to the inability to manage their time and motivation correctly, students do not participate in the activities of student scientific circles, which is one of the key factors in improving the quality of professional knowledge. This problem is relevant because it affects the level of qualification of future doctors. In this article, we examine various aspects and problems of student participation in student scientific circles using the example of the circle, consider the interests of students and identify the most practical methods for improving the work of such scientific groups. To achieve this goal, we studied both Russian and foreign scientific literature, analyzed the results of a survey of 1-6 year students and the Samarkand State Medical University. The data obtained revealed that the leading methods for increasing students' interest in scientific communities are the availability of innovative technologies for training, the opportunity to travel to other cities to participate in scientific conferences, practicing practical skills on mannequins in a simulation center, and the opportunity to attend surgeries. Students also noted that the reasons for visiting scientific clubs are to increase their professional experience, improve their skills in writing research articles, and discover new perspectives. Thus, student scientific clubs should actively participate in scientific conferences in other cities, have innovative technologies and mannequins for training students, and organize visits to the hospital to understand how doctors work in real medical conditions.

**Keywords:** scientific circle, scientific community, students

**Introduction.** Nowadays, the training of medical students requires a number of conditions, including material and technological support for the educational process, availability of scientific, educational and specialized literature, widespread use of training technologies that allow simulating real situations. Interaction between teacher and student is also a key factor in achieving professional growth [1, p. 82]

Active teaching methods are aimed at engaging students in independent cognitive activity, arouse personal interest in solving any cognitive problems, the ability of

students to apply the knowledge they have acquired. Active teaching methods can be used at various stages of the educational process: Stage 1 - primary acquisition of knowledge. This can be a problem lecture, a heuristic conversation, an educational discussion, etc. Stage 2 - knowledge control (reinforcement), such methods as collective thinking activity, testing, etc. can be used. Stage 3 - the formation of professional skills and abilities based on knowledge and the development of creative abilities, it is possible to use modeled learning, game and non-game methods. Active teaching methods are aimed at the formation of skills and abilities, ensuring that students complete those tasks in the process of solving which they independently master skills and abilities. Active methods are characterized by the following features: lack of formalization, emotionality, demonstrativeness, awareness, productivity of the formation of practical skills necessary for successful communication with people and for professional activity.

The following criteria can be identified for the application of active teaching methods: □ compliance of methods with the principles of teaching; □ compliance with the goals and objectives of teaching; □ compliance with the content of the topic; □ compliance with the learning capabilities of students: age, psychological, level of preparedness (education, upbringing and development); 6 □ compliance with the existing conditions and allotted time of teaching; □ compliance with the capabilities of auxiliary teaching aids; □ compliance with the capabilities of the teachers themselves - capabilities are determined by their previous experience, level of persistence, specific features of the dominance of power, pedagogical abilities, as well as the personal qualities of the teacher.

To carry out extracurricular work at the Samarkand State Medical University, within the framework of the work of the youth scientific society, student scientific circles operate on various topics and areas, each of which has a number of features that open up new opportunities for young specialists. In addition, scientific meetings are of an educational nature and allow you to learn more not only about maintaining a satisfactory patient condition, but also about protecting your own health. Thus, the physical education circle promotes an active lifestyle, including moderate physical activity, which helps reduce the risk of developing diseases of the musculoskeletal system, especially pathologies of the spinal column, to which doctors are often susceptible due to their predominantly sedentary work [2, p. 84].

In general, scientific circles contribute to the general and specific development of future doctors, promoting their organization, observation and independent vision of problems. Within the framework of student scientific circles, young specialists study scientific literature, communicate with experts, analyze and creatively process the information received, and also write research papers that allow not only to strengthen the knowledge of basic material, but also to master additional skills [3, p. 4]. One of

the most important tasks of scientific communities is to involve students in the work of the circle, encouraging them to learn new things [5, p. 28]. Increasing the interest of students in scientific circles is directly proportional to increasing their motivation to gain knowledge. In order to motivate students, it is necessary to use certain incentives, both cognitive, aimed at the need of students to expand their horizons, gain new experience and knowledge, and influencing personal growth, in other words, the desire for intellectual growth and psycho-emotional development [6, p. 180].

A large role in motivating students is played by the presentation of the existing achievements of the club members in a certain area. Success encourages students to experience positive emotions, which is an indicator of a person's mental health [7, p. 107]. In addition, an important criterion for increasing interest in such activities is an individual approach to each club member, which, in the context of mass participation, requires great attention from the teaching staff and the search for new teaching methods. Methodology and research methods. To identify students' interests in the activities of scientific communities, the method of analyzing scientific literature was used and a survey was conducted among 1-6 year students of the Samarkand State Medical University. 110 students took part in the survey. The survey questions were compiled in the cloud editor "Google Forms" Research results and their discussion. According to the survey results, it was revealed that 38% of students do not attend scientific clubs, 20% are not members of scientific communities, but would like to try, and 42% noted that they actively participate in the activities of scientific communities.

Thus, the majority of students show interest in scientific communities, which has a beneficial effect on scientific and educational progress. The greatest interest in the activities of clubs is shown by 3rd year students (58%). The fourth year ranks second in the number of visits (14%). It can be assumed that this pattern is associated with the choice of a future specialty, since the work of scientific clubs of the corresponding profile allows one to form an idea of the area of medicine of interest. The least interest is shown by students of the 2nd (5%) and 5th (6%) years (Figure 2). Most likely, this is due to the adaptation of the first two years and the limited amount of time resource, as well as the already formed direction of further activity of senior years. These results allow us to understand what target audience should be emphasized when developing new methods of extracurricular training of future medical workers.

The students were also asked about ways to improve the quality of the club's work; the majority, as we mentioned earlier, voted for the introduction of innovative technologies into training (68%). 62% voted for the opportunity to participate in international and all-Russian conferences and 62% for practicing manipulations on mannequins.

According to the survey, 47 students noted that they would like to study anesthesiology and resuscitation, and 43 would like to study another type of medical

activity. Today, the Anesthesiology and Resuscitation club provides an opportunity to practice practical skills on mannequins, attend surgeries, participate in research activities, realize their potential in Olympiads, and all this happens under the supervision of experts who share their many years of experience and explain difficult-to-understand materials.

Participants of this group are fluent in first aid skills: tracheal intubation, which plays an important role in medical practice and is used to provide the patient with oxygen using artificial ventilation of the lungs [8, p. 292] in critical situations, while it should be noted that incorrect performance of this manipulation leads to dangerous complications from the cardiovascular system, up to cardiac arrest [9, p. 463]. To teach students intubation, it is important to explain the anatomical features of the larynx, have mannequins to perform the manipulation and the necessary tools. After the student attempts to practice the skill, the expert must point out his mistakes and explain how to avoid this outcome [10, p. 751]. Correctly performed orotracheal intubation includes the following steps: correct positioning of the patient's head, opening the mouth, inserting the laryngoscope into the oral cavity, inserting the endotracheal tube, removing the laryngoscope, inflating the cuff, checking the correct installation and fixing the tube. Today, there is a method of teaching intubation that uses videolaryngoscopy. It makes it possible to obtain a clearer image of the glottis, which has a positive effect on the outcome of the manipulation [11, p. 1]. Innovative technologies such as a videolaryngoscope make training more accessible for understanding. In addition, the circle practices cardiopulmonary resuscitation skills, which all medical workers must possess. This manipulation is performed in cases where the patient's heart stops and breathing stops, which can lead to death [12, p. 29].

The stages of cardiopulmonary resuscitation include: laying the patient on a flat surface, raising his legs, removing clothing in the chest area, determining the area in which compressions will be performed, performing indirect cardiac massage, artificial ventilation of the lungs after 30 chest compressions [13, p. 571]. If the described manipulation is performed incorrectly, rib and sternum fractures are possible [14, p. 1]. There are technologies using virtual reality, with the help of which students are trained in cardiopulmonary resuscitation. This technology consists of using a specially developed VR application and a mannequin to control the force and frequency of chest compressions. Students who were trained using virtual reality had better technical skills [15, p. 1]. We are engaged in international and interuniversity cooperation, including that aimed at increasing the interest of young people in research work, expanding the capabilities of the teaching staff in teaching students the skills of search and research work, cooperation with the Academy of Sciences, organizing interdisciplinary scientific conferences and master classes for young people, stimulating students to participate in them [16, 17, 18].

**Conclusions.** To summarize all of the above, in order to increase the level of interest of students in research activities at the Bashkir and Samarkand State Medical Universities, it is necessary to continue to widely use the latest technologies for training, take an active part in international and all-Russian conferences, interuniversity academic mobility programs, teach students practical skills on mannequins, and also raise the motivation of students, reinforcing them with various incentives.

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