

# Opinion of Students Concerning the Discipline of Clinical Anatomy and Operative Surgery and some Educational forms Used in its Study

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## Abstract

For higher medical education in Ukraine, the last decade has become a challenge for its preservation and further development. The transition of the educational process to a mixed form of education due to the development of the COVID-19 pandemic, and in recent years the war in Ukraine became catalysts for the active introduction of modern information technologies into the educational process. Students, who are direct participants in the educational process, should participate in it, and their opinion should be taken into account during creating different forms of education. Questionnairing students on the use of various educational forms during the study of disciplines at a medical university is one of the methods of studying their opinion for improvement of the educational process. We conducted a questionnairing of students studying clinical anatomy and operative surgery at Ivano-Frankivsk National University. The results of the questionnairing showed that students are ready to discuss the educational process in this discipline, noting its importance for their future doctor occupation. In the questionnaires, students recommended paying more attention to practical skills and their mastering, the use of cadaveric and wet anatomical material, and also positively evaluated the development and use of video on the performance of practical skills, that played an important role during the blended form of education. One of the forms of training of students in the discipline of clinical anatomy and operative surgery is performing an operation on an animal. In the questionnaires, students noted the need for further use of this form of education. After completion of the study of clinical anatomy and operative surgery, according to the results of the questionnaire, most students are ready and will try to do the practical skills, which they have mastered during studying the discipline of clinical anatomy and operative surgery, in real situation.

**Kew Words:** stroke; perception; task specific training; muscles- input-perception

## Introduction

In recent years, medical education throughout the world, and in particular in Ukraine, has undergone changes and renewal. With aim to better prepare students of medical universities, innovative approaches are being introduced to increase the representativeness of the educational process, educational programs in medical disciplines are being expanded [1], new forms of education are being developed, such as: problem-based learning [2], case-based learning [3], team training [4], flipped classroom learning [5], simulation-based learning [6] etc. As some authors note, the system of medical education in Ukraine is one of the best and relatively affordable in the world [7]. Despite this, medical education in Ukraine is undergoing not only changes, but also severe tests, which were previously caused by the COVID-19 pandemic, and now by war. This leads to negative consequences during the clinical training of students, deterioration of mastering and assimilation of practical skills by them, decrease in the development of professionalism among students [7]. The active introduction of distance and blended forms of education, during the period of the COVID-19 pandemic and the war, provided the continuation of the educational process in medical

universities and preserved the scientific -pedagogical personnel of the universities. At the same time, it became a challenge to find and implement new forms of distance and blended education of students using modern communication and digital technologies. The Internet is used more and more actively in the educational process, as an important means of communication and a source of a large information resource. A feature of such information technologies is the availability and possibility of theoretical training of students, but the practical training of such students, on the contrary, become worse. Thus, when teaching the discipline of clinical anatomy and operative surgery, where students have the opportunity to master basic practical skills, distance education is not able to provide practical training of students. One of the important steps to overcome the shortcomings that arise in connection with the introduction of distance and blended forms of education, especially in Ukrainian medical universities, is the joint communication of the students with teachers about ways to improve the situation in the practical training of students. Questioning students about the educational process by discipline is one of the forms of communication between the partners of the educational

process (teacher - student) and remains an important tool for studying the opinion of students [8] about the educational discipline, its importance and how to improve its teaching in different forms of education.

### The aim of the study

To analyze the opinion of students during studying by them discipline of clinical anatomy and operative surgery in the conditions of a mixed educational process using various educational forms of conducting practical classes.

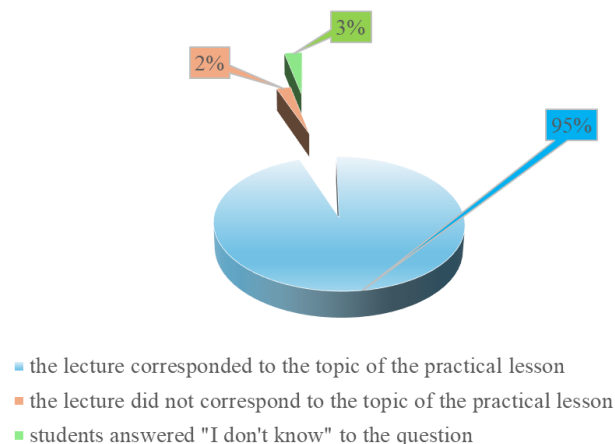
### Methods of research

We conducted a questioning of 144 students of the II year course of the medical faculty specialty in "Medicine" who studied the discipline "Clinical Anatomy and Operative Surgery". In advance, the main questions were formulated, to which the students were recommended to give answers. The questions in the questionnaire related to the vision and meaning of the discipline of clinical anatomy and operative surgery by students after completing its study; attitude of students to the use of cadaveric and wet anatomical material in practical classes; attendance by students of the educational - practical center, which is organized at the department to teach students basic practical skills; use of produced on department videos by students to perform practical skills; the importance of lectures in studying the discipline; technical support for conducting practical classes at distance learning; the role of practical class surgery on an animal; the ability of students to independently perform practical skills after studying the discipline, in particular, suturing; psychological changes that could occur in each student with the beginning of the war.

### Research results and their discussion

According to the results of the questionnaire, for 136 (94%) students, studying the discipline "Clinical Anatomy and Operative Surgery" was useful. Students noted the practical importance of the discipline of clinical anatomy and operative surgery, namely, their acquisition of sewing skills of various anatomical tissues. Although, 5 (3%) students did not note the need to study this discipline or answered "don't know" to the questions in the questionnaires. When asked, what was useful for students when studying the discipline, 108 (75%) students pointed to the combination of theoretical and practical material on clinical anatomy and operative surgery. For 46 (32%) students, the practical part of the course was more useful, and 10 (7%) students preferred the theoretical part during studying "Clinical Anatomy and Operative Surgery". In the questionnaires, students drew attention to the importance of this discipline when studying related disciplines. It was got a positive answer from 69 (48%) students on the question whether the discipline "Clinical Anatomy and Operative Surgery" helped in studying other disciplines in this semester. In particular, students noted the role of the

discipline of clinical anatomy and operative surgery when studying such disciplines as "Physiology" and "Training of reserve officers". However, 44 (31%) students did not note the role of the discipline when studying other disciplines, and 29 (20%) students answered "I don't know" to the question. This can be explained by the fact that students of the II year-course of the medical faculty do not yet study therapeutic or surgical disciplines. When studying the disciplines of clinical anatomy and operative surgery, we actively use cadaver material. Therefore, one of the questions of the questionnaire concerned the attitude of students to its use during practical classes. The majority (139 (97%)) from the 144 surveyed students responded that they support the use of cadaveric and wet anatomical material for teaching and mastering practical skills. Students noted that the use of cadaveric and wet anatomical material in a practical classes is similar to real conditions, improves the level of students' mastery of practical skills, facilitates the assimilation of educational material in the discipline. Only five (3%) from the 144 surveyed students answered that it is enough to use dummies in a practical lesson. The Department of Clinical Anatomy and Operative Surgery has an educational - practical center "Surgical Techniques", where students can practice and master practical skills. When surveying students about their visits to the educational and practical center, it was found that the majority (52%) of students visited and worked in the educational - practical center. However, according to the results of the questionnaire, 38% of students did not visit the educational - practical center, because lack of time. In order to better learn practical skills by students, we created video where the teacher explains and demonstrates the performance of a practical skill. Video are available on the website of the department and every student can watch them at any convenient time. When surveying students about using the video by them, 124 (86%) students watched video while preparing for practical classes. However, 8 (5%) students did not use video. The majority of students (86%) did not note any shortcomings in the video on practical skills, and 17 (12%) students answered "I don't know" regarding the presence of possible shortcomings in the video. Among the students' wishes were to increase the number of video and use time codes in video. Lectures for students in the discipline "Clinical Anatomy and Operative Surgery" were conducted distance. For this purpose, the TEAMS platform was used. Uninterrupted work and access to the Internet are important for successful distance learning [9]. However, as the questionnaire showed, the majority of students (65%) noted violations in the work of the Internet, which was mainly due to blackouts. The TEAMS platform did not always fully function, as indicated by 8 (6%) students. Questionnaire students regarding the relevance of the lecture to the topic of practical classes showed that 127 (88%) students answered positively to the questions in the questionnaire, 3(2%) students believed that the lecture did not correspond to the topic of practical classes, and 4(3%) students answered "I don't know" to the question in the questionnaire (Fig. 1).



**Figure 1:** Students' attitude to the lecture

The majority of students (81%) used lecture material to prepare for practical classes in clinical anatomy and operative surgery, but 23 (16%) students did not use it during preparing for practical classes. Students, in 55% of cases, used the lecture to prepare for practical classes by 50-75%, 100% of the lecture was used by 8 (7%) students. In the questionnaires, students recommended increasing the number of lectures, reducing their volume, and holding lectures off-line. In order to improve practical skills in the discipline, a practical class "Operation on an animal" is carried out. Students, in conditions as close as possible to the real ones, prepare their hands for surgery, learn to put on a sterile gown and gloves, prepare the operating field and cover it with sterile material, perform the disconnection and connection of tissues, stop bleeding. When surveying students, it was found that operation on animal was useful for 112 (78%) students, 6 (5%) students answered the question negatively, and 5 (3%) students answered "don't know" on the question. As the survey showed, for 114 (79%) students, the

practical lesson "Operation on animal" helped to learn practical skills in the discipline, although 14 (10%) students answered this question negatively. For the majority of students (74%), the practical lesson "Operation on an animal" increases their responsibility when performing surgical interventions on a living organism, 96 (67%) students noted that this practical lesson teaches the coordinated work of members of the surgical team during the operation, 86 (60%) of students noted the importance of this operation in their proper performance of practical skills during the operation. Students noted the need to perform such operations on animals more often and to increase the number of operating teams. It is also important how much the student is confident and ready to perform a basic practical skill, for example, suturing an uncomplicated wound (if the necessary tools are available) under certain conditions. Questions on this matter were formulated in the questionnaire (Fig.2). When surveying students, it was found that 68 (47%)

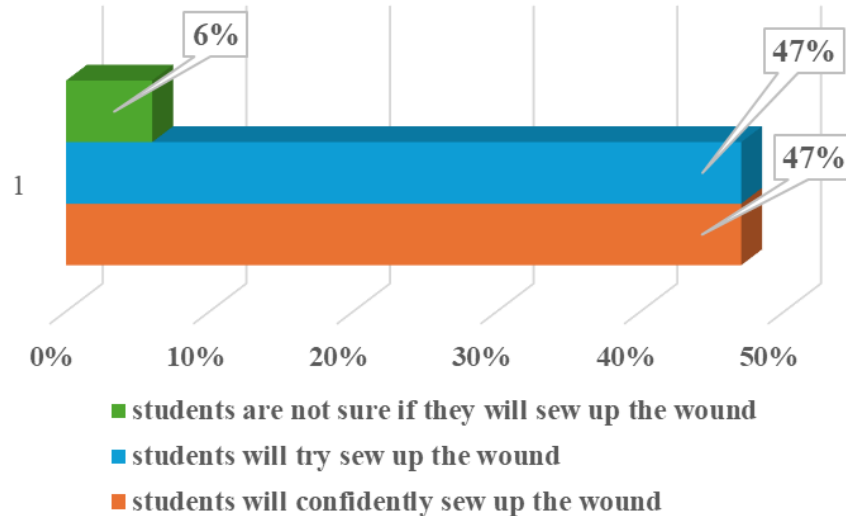


Figure 2: Students' ability to use mastered practical skills in real conditions

are ready and confident to sew up the wound, 68 (47%) students will try to sew up the wound, and 8 (6%) students answered that they are not sure if they will be able to do it. It is necessary to take into account the war time, where students are currently studying. The war affects both the psycho-emotional state [10] of students and their studies. Despite the fact that the war in Ukraine has been going on for the third year, the results of the survey show that 32 (22%) of the students' studies during the wartime period worsened due to a psycho-emotional state and stress, which is also indicated by other authors [11]. For 60 (42%) students, according to their survey results, nothing has changed. At the same time, 42 (29%) students noted in their questionnaires that they became more responsible and their level of self-organization increased in wartime conditions. Some students wrote in the questionnaires that they began to appreciate more peaceful time, when you can study quietly without air alarm.

## Conclusions

Thus, higher medical education in Ukraine, which is at the stage of change and renewal, requires the search and application of new approaches and technologies in the educational process in various forms of education. The results of the conducted questionnaire, on the example of the discipline of clinical anatomy and operative surgery, showed that the use of different educational forms provides the improvement of students' assimilation of both theoretical and practical material from the discipline in conditions of blended learning. Questioning remains one of the important forms of interaction with students, which helps in identifying the shortcomings and advantages of modern technologies when conducting practical classes in the discipline.

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