REMOTE TRAINING OF MEDICAL STUDENTS:
ADVANTAGES AND DISADVANTAGES

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Abstract

Modern medical education, its quality requires the use of innovative transformations in training technology. The use of modern information technologies allows us to transfer the learning process to a qualitatively higher level. As a result, traditional education is reoriented to a fundamentally new level, where the student’s role changes: he becomes an active participant in the educational process.

Key words: distance learning; medical students; advantages; disadvantages.

A doctor learns all his life - this is the specificity of our profession. The doctor must upgrade his qualifications at least once every five years, after which he is renewed with a certificate of professional activity for the next five years. The specialist’s desire to improve knowledge poses the challenges for educational institutions to optimize the learning process, taking into account both domestic traditions and principles developed and tested by the international community.

The current epidemiological situation has forced everyone without exception to adapt to reality and begin to master a special mode of the educational process - remote (online).
While for many countries around the world distance learning has long been a separate step and is very popular, most Ukrainian universities do not have such experience, and therefore Ukrainian educators face a difficult period of adaptation.

As you know, from March 12, 2020 in Ukraine introduced quarantine for all educational institutions. The relevant decision was made by the Government on March 11, 2020. According to safety requirements in the context of the spread of coronavirus, staff, teachers and students were transferred to remote work.

Currently, the main requirement for distance learning in Ukrainian universities is to maintain continuity of study so that students can pass exams and complete the academic year on time, even in quarantine.

Distance learning is a new educational experience that we are gradually mastering. The transition itself took place suddenly, like a clock shift. I predict that in the future, some of the workload teachers will perform online, such are the realities of today, it's mobility, it's savings. But at the same time there are questions, who will provide equipment, devices and accessories?

«Higher education institutions have academic autonomy. They independently determine how to organize the educational process in quarantine and what technologies to use» - such concise recommendations are given by the Ministry of Education and Science to Ukrainian universities.

«Academic autonomy» gave Ukrainian teachers and students a wide field for experimentation. After talking to students from different Ukrainian cities, we found that their own approaches to distance learning are used not only by certain universities or institutes, but also by individual teachers within one department.

However, there are common features, the main of which is the use of all possible modern means of online communication.

✔ **Google Classroom** ([classroom.google.com](http://classroom.google.com)) is a free service and application for universities and non-profit organizations, one of the most popular educational platforms in the world. Students call it perhaps the most orderly and best suited for learning from home.

✔ **Google Meet** is an enterprise video conferencing tool based on Google's robust and secure global infrastructure, Meet is included in G Suite and G Suite for Education. Meet video calls are encrypted during the transmission of the signal, and the default anti-tampering tools help to further secure communication. Full integration of the Meet application with G Suite allows you to join meetings simply from Calendar events or invitations in emails. This can be done from your computer and phone, as well as from the conference room, with all the
important information about the event always at hand. With Meet, you can easily start a video call at work and invite more than 250 users.

✓ **Moodle** is a popular online learning management platform for teachers in many countries. A number of Ukrainian universities link to this platform the entire system of distance learning, the exchange of information between teachers and faculties.

✓ **Zoom** is an online video and video conferencing service. A fairly common tool for remote business contact with their employees who do work from home. Works both from the computer, and as application to the smartphone.

Ukrainian educators use all possible messengers and social networks to correspond with students:

- Skype;
- Viber;
- Telegram;
- Facebook;
- Instagram;
- and also use these platforms to broadcast classes.

Traditional tools:

- the site of the educational institution;
- e-mail;
- phone.

They remain channels for resolving organizational issues between teachers and students.

However, the question arises: Is distance learning in medicine possible? Is it possible to ensure the development of clinical skills in a distance course without integrated face-to-face training?

In the study of any medical specialty, in contrast to the humanities, visualization plays a key role in acquiring the knowledge of a doctor. It is impossible to imagine gaining knowledge of anatomy without working in a section, studying histology without working with micropreparations, studying surgery without observing operations, etc. You can read the description of the X-ray picture of pneumonia in the textbook many times, but not forget it. But it is enough to see the X-ray once and remember it for life.
Naturally, teaching a doctor practical skills requires traditional face-to-face contact with teachers, but all theoretical training and exercises in decision-making can take place in a remote form. Distance learning is not replaced by the synonym of «correspondence». It differs from distance learning by a more convenient system of information delivery and the use of new technologies in the learning process, which allows us to expand the geography of course participants and also expand the thematic range of taught courses without compromising their quality.

Psychological and pedagogical studies show that the use of electronic learning systems with visualization tools contributes to a more successful perception and memorization of scientific material, and allows you to penetrate deeper into the essence of cognitive phenomena. This is due to the activation of the work of both hemispheres simultaneously: the left hemisphere habitually works in the traditional form of training, and the right hemisphere, which is responsible for the imaginatively emotional perception of the presented information, is activated during visualization. The result is a creative and professional development of the personality of the doctor.

Distance education can reduce learning time due to the speed of communication between the teacher and the student, as well as due to the possibility of using almost all forms of training (including independent work in the electronic library) using a computer.

In distance learning, students themselves regulate the time required for the assimilation of educational material, tests and exam within the allotted training period.

**Advantages and disadvantages of distance education.**

The advantages of distance education include:

- makes the guaranteed quality of education accessible to all;
- the possibility of training at the place of residence. This will expand the circle of trained doctors, especially from rural areas, where the lack of personnel does not allow for a long time to go to school with a separation from work;
- saving time and financial costs. It is especially effective for training doctors who work full time and have limited time for training;
- the use of modern information systems: educational social networks e-mail, electronic libraries, computer conferences, virtual and simulated conferences, master classes, online knowledge assessment, testing;
- direct contact with well-known domestic and foreign experts: telemedicine, video conferencing, telephone consultations, on-line training;
- archiving of acquired knowledge;
- flexibility;
- independent planning of your schedule, ie the opportunity to work at your own pace, but there must be strict discipline, although there are distractions and excuses that I will do it tomorrow. In the future, it will be convenient to work so remotely when you can give lectures to students while on a business trip or at a conference abroad. As for the student, he also chooses the mode of mastering the program, being on his favorite bed or among the flowers in the garden. Yes, it's convenient.

The disadvantages of online learning include the fact that not everyone has high-speed Internet, the ability to have their own workplace, and the teacher is sometimes difficult to identify the student. That's who «Rendezvous» is under the nickname? Distance learning does not allow seeing the emotions of higher education seekers from the information received, i.e. there is a lack of live communication. There are still questions about academic integrity, because the teacher cannot trace whether the student writes tests or assignments on his own. You need to be highly motivated to study at a distance. And not all teachers are programmers, to make a multimedia lecture is fantastic. On Friday, for example, the Internet disappeared and I have an automatic day off, this should also be taken into account when organizing distance education.

At the same time, there are certain difficulties that must be taken into account when introducing a distance form into the learning process.

Firstly, distance learning requires considerable skilled labor for the development and production of programs that guarantee high quality training and, secondly, in our opinion, the most important thing is to ensure control of clinical experience. With distance learning, it is difficult to ensure the development of clinical skills without integrated face-to-face, hand-to-hand training. Therefore, careful planning is required to ensure that learning opportunities are appropriately blended to fit students’ learning needs. The effectiveness and necessity of this area in medicine required further improvement and expansion of the range of use.

One of the possible methods that ensure the effectiveness of distance learning in medicine is telemedicine (video conferencing, video consultation, etc.). Today telemedicine has become an integral part of a highly professional presentation in surgery, obstetrics, therapy, cardiology.

**Conclusion.** Despite the cessation of full-time education due to the coronavirus epidemic, the work of the teaching staff continues in full force to ensure that students receive a quality education. Students continue to study remotely thanks to an online platform developed by the university, which allows real-time communication with teachers. The
university library system with electronic resources and administrative services also operate remotely. Students can contact the university's departments by e-mail or through the university's official portal. As we can see, university communities around the world have a common goal - to ensure a high level of education in these extraordinary circumstances, while maintaining the highest academic standards.

References:

1. Belozerova, EA Distance Learning in e-Health / E.A. Belozerova, B.V. Crystal, M.Ya. Natenson et al. // Information Society. - 2007. - Iss. 1-2. - S. 85–93.

2. Vladzimirsky, A.V. Telemedicine technologies based on the Internet: teleconsultation and distance learning / A.V. Vladzimirsky // Ukrainian Medical Almanac. - 2003. - T. 7, No. 2. - S. 71–74.

3. Vladzimirsky A.V. The experience of using teleconsultation in clinical practice / A.V. Vladzimirsky // Doctor and information technology. - 2004. - No. 3. - S. 54–59.

4. Vasilkov, V.G. Possibilities of using telecommunication technologies in critical state medicine / V.G. Vasilkov, V.S. Schukin // Bulletin of intensive care. -1998. - No. 2. - S. 13-17.

5. Kazakov, V.N. Distance Learning in Medicine / V.N. Kazakov, V.G. Klimovitsky, A.V. Vladzimirsky. - Donetsk: LLC Nord, 2005. - 80 p.

6. Finger, M.A. The trajectory of continuous development / M.A. Finger // Medical Academy. - 2007. - No. 9. - S. 3–8.

7. Kholopov, M.V. Distance learning in medicine. http://www.mma.ru/article/id299005/from1 - [electronic resource].