

Venereology with a cosmetology course at the Medical Institute of Continuing Education of the Federal State Budgetary Educational Institution of Higher Education "Russian Biotechnology University," the following results were achieved over the course of an 8-hour training session.

1. All trainees noted the high degree of realism of both the silicone head model and the level of detail in the virtual human head model.
2. The anatomical atlas of the face and neck strictly complied with the standards of educational programs in the "Cosmetology" specialty and included anatomical features that doctors use as reference points during procedures. Hazardous areas were highlighted with audible and visual alerts when approached during the injection process.
3. According to student feedback, the botulinum toxin therapy module covered the maximum number of injection sites (12 sites) on the face and neck. The simulator allowed students to see the tip of the needle in a cross-sectional view and to precisely position the syringe in terms of depth and angle of inclination. All trainees noted that the sensation of pressing the plunger of the training syringe was similar to that in real life.
4. According to the majority of trainees, the contouring module accurately replicated real-world sensations, ranging from holding the syringe in the hand to the filler injection sites suggested by the program. Particular mention was made of the ability to precisely and visually navigate the syringe around dangerous anatomical areas (openings in the facial skull and major arterial and venous trunks).
5. Upon completion of the training, all residents who had undergone training on the simulator recommended its inclusion in the continuing education program for the specialty of "Cosmetology," and 80% of them expressed a willingness to continue training using this simulator and to recommend it to fellow residents and specialists in aesthetic medicine.

Conclusions

The Kos-Sim virtual simulator is a modern educational tool for specialists in dermatology, cosmetology, and plastic surgery, allowing them to completely eliminate the need for live models in the training process and practice botulinum toxin therapy and contouring techniques in a comfortable environment for trainees. The simulator's software helps department staff accurately assess students' manual skills based on audio-visual data and digital readings obtained during task performance.

The Kos-Sim virtual simulator can diversify the learning process and facilitate initial specialized accreditation in dermatology departments offering courses in cosmetology and plastic surgery at medical universities.

Manuscript received on September 9, 2026

MORE THAN JUST A GAME: HOW GAMIFICATION IS CHANGING MEDICAL EDUCATION

Maksumova N. V., Fattakhov V. V., Yusupova N. Z.

Kazan State Medical Academy — a branch of the Federal State Budgetary Educational Institution of Additional Pro-

fessional Education of the Russian Medical Academy of Postgraduate Education, Kazan, Russian Federation

nv_maks@mail.ru

DOI: 10.46594/2687-0037_2026_3_2280

Abstract. Gamification is one of the most promising technologies. Objective: to increase students' interest in learning through gamification. To implement gamification methods, team-based games were used: a quiz on life-threatening arrhythmias was developed, and the game "The Decisive Minute" by Mederius LLC was employed. The participants were able to reinforce the theoretical material covered in lectures through the game and increase their interest in completing continuing education courses, especially among highly experienced specialists.

Scientific specialty: 3.2.3. Public Health and Health Care Organization, Sociology, and History of Medicine.

Relevance

In an environment of instability and information overload, technologies and methods that increase students' motivation and engagement in the educational process take on particular importance.

One of the most promising technologies is gamification (from the English word "game") — the integration of game-based techniques into non-game contexts.

These methods have been applied quite successfully in preschool and K-12 education, as well as in corporate training, and in recent years have been actively introduced into medical education. The increased interest in this topic among professional educational and medical communities is confirmed by the growth in publications on gamification, game-based learning, and "serious games" in medical education.

The demand for game-based technologies in education can also be explained by generational theory: currently, students are predominantly from Generations Y (so-called "millennials") and Z, for whom the use of active learning methods, new technologies — including online learning — and the provision of immediate feedback are important. In addition, the amount of time students spend in the digital space each day continues to increase. For example, according to a 2019 study on mobile phone usage habits, people aged 18 to 25 spend more than 5 hours a day on their phones. Consequently, it makes sense to develop and implement mobile tools that can be used in the educational process.

Objective

To increase interest in learning among students with extensive work experience by incorporating gamification methods into the educational process.

Materials and Methods

Team-based games were used to implement gamification methods. The games were incorporated into the "Emergency Medical Care" continuing education course. The course is designed for physicians of all specialties in the field of clinical medicine. The group consisted of 23 participants, including 3 internists, 3 emergency medicine physicians, 2 clinical laboratory diagnosticians, 2 pediatric

oncologists and hematologists, 5 physicians specializing in therapeutic physical training and sports medicine, 1 cardiologist, 2 infectious disease specialists, 3 neonatologists, 1 psychiatrist specializing in addiction medicine, and 1 neurologist.

At the beginning of the course, participants attended theoretical and practical sessions on providing first aid and emergency medical care. Toward the end, sessions incorporating games were held. The Department of Emergency Medical Care and Simulation Technologies developed a quiz for the trainees on cardiopulmonary resuscitation and providing care for life-threatening arrhythmias. The questions were based on material from the corresponding lectures; for example:

What interventions are effective in cases of asystole?

What are the four steps that make up the "Chain of Survival" in the event of cardiac arrest? etc., with multiple-choice answer options

First aid skills were assessed using the "Decisive Minute" first aid board game by Mederius. The game features five categories of challenges that players face: safety, consciousness, breathing, circulation, and fear.

Results

During the quiz, the participants were divided into four teams, with each team consisting of doctors from different specialties who were seated next to one another at their desks. Overall, everyone demonstrated a very high level of knowledge, but the team that included two emergency medicine doctors answered faster and more accurately. Apparently, the doctors' experience in providing emergency medical care, as well as their decisiveness and quick reflexes, played a role here.

In the first-aid game, where teams were also divided at random, no clear leader emerged. All four teams crossed the finish line almost simultaneously, but they all consistently made the same mistake: they all forgot to ensure their own safety and immediately tried to help the victim. By the end of the game, it became clear that ensuring one's own safety is the top priority, and such mistakes were no longer made. Another interesting moment was when the teams placed bets on each other's success; by the middle of the game, clear leaders had emerged, and participants tried to predict the number of correct answers another team would give, thereby advancing further across the field. A competitive spirit developed, along with the participants' desire to win.

Discussion

It's clear that the students wanted to win every game and were striving to do so. But our goal wasn't to determine a winner; rather, it was to reinforce the theoretical material covered in lectures through the game, discuss it again, and learn something new. And it worked: the doctors once again asked the questions that had arisen, discussed among themselves who was right and who was wrong, reenacted the situations presented in the board game, and shared their experiences. At times, they debated and discussed possible alternative answers, which, of course, brought satisfaction to both the specialists themselves and the instructors.

Conclusions

The implementation of gamification methods helps increase learners' interest in participating in continuing education programs, especially among specialists with extensive experience in continuing professional education programs, and also draws attention to simple yet important details that are often overlooked amid the large volume of theoretical material in traditional classroom settings.

Manuscript received on September 10, 2026

STAFFING AND MANAGEMENT OF UNIVERSITY SIMULATION TRAINING CENTERS AS A PILLAR OF THE FUTURE DEVELOPMENT OF EDUCATIONAL TECHNOLOGIES

Bulatov S. A.

Kazan State Medical University, Kazan, Russian Federation

boulatov@rambler.ru

DOI: 10.46594/2687-0037_2026_3_2281

Abstract. This paper analyzes the work of the Practical Skills Center at Kazan State Medical University. It examines the conditions for establishing, equipping, and operating a university simulation center. An analysis of the advantages and disadvantages of various approaches to organizational structure is presented. The paper traces the center's 25-year development and transformation into a department with expanded authority as an interdepartmental resource center. Promising directions for the development of simulation-based teaching methods for future physicians are identified.

Scientific specialty: 3.2.3. Public Health and Health Care Organization, Sociology and History of Medicine.

Relevance

The current standard of higher medical education calls for the widespread use of simulation techniques to develop practical skills in both the early and later years of study, already in combination with working with real patients. Meanwhile, there is no unified, well-founded approach to determining the optimal staffing, functions, and management of university training centers. Each educational institution addresses this issue based on its own vision and, often, the rector's subjective view of the matter. Consequently, even within a single university, one may find several training units performing similar, parallel work — some based on academic curricula, while others operate on their own initiative and are driven by commercial interests. Systematizing Russia's accumulated experience and developing well-founded practical recommendations for organizations embarking on this path is a pressing task.

Objective

The objective of our study was to analyze existing practices and to develop an organizational model for a university educational simulation center.

Materials and Methods

The study focused on the development of the Practical Skills Center at Kazan State Medical University, which has been in operation since 2002.