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THE BUSINESS GAME IS A PROCESS OF MODELING REAL PRACTICAL ACTIVITIES AND A MEANS OF DEVELOPING STUDENTS' CREATIVE ABILITIES

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Background. The business game is a method of training professional activity by modeling it, close to real conditions, with the obligatory dynamic development of the situation. **The purpose of the study:** to compare the effectiveness of traditional and interactive teaching methods (business games) in pediatrics teaching 4-year students of the medical faculty. **Materials and methods:** 61 students of the medical faculty were surveyed using the Melbourne decision-making questionnaire (MDMQ). The main group was presented (n=30), students who used business game, the control group (n=31) - in the training of which traditional teaching methods was used. **Results:** a confirmatory factor model of the structure of MDMQ among students of group I: vigilance - 78%, avoidance - 12%, procrastination - 8%, over-vigilance -2%. Students of two groups: vigilance - 56% ($p<0.05$), avoidance – 18% ($p<0.05$), procrastination - 22% ($p<0.05$), over-vigilance - 4% ($p>0.05$). **Conclusion:** the introduction of an interactive method of teaching a business game increases the productive component in the formation of decision-making in vocational training for students of the medical faculty.

Keywords: business game, Melbourne decision-making questionnaire, students, medical faculty

Conflict of interest

The authors declare that they have no conflict of interest.

Informed consent

Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.

Introduction

In modern conditions, the educational process of a professional school, in particular higher medical education, should be aimed at the formation of an independent, active, initiative person who is ready to cooperate and organize his professional activities. According to the requirements for the conditions for the implementation of basic educational programs, a higher educational institution must provide, when implementing a competency-based approach, the use of modern educational technologies in the educational process, which will contribute to a more effective perception of educational material, the formation and development of general and professional competencies [1].

The business game is a method of training professional activity by modeling it, close to real conditions, with the obligatory dynamic development of a situation, task or problem, which should be solved in accordance with the nature of the decisions and actions of its participants.

A business game, simulating a separate situation, allows you to solve specifically formulated tasks and problems, to develop methods for solving problems. It has a certain structure and rules; its main function is to develop skills and abilities to act in standard situations [2]. A business game is used to learn new and consolidate old material; it enables students to understand and study educational material from various perspectives. Researchers of the game simulation problem believe that the situations that form the basis of each game should be relevant, real, typical, complete, and capable of growth and development over time. In the higher medical educational

institution, various modifications of business games are used: simulation, operational, role-playing games, ″Business Theater″, psycho-socio-drama [3].

Simulation games. In the classroom, they imitate the activities of a certain organization, medical institution, dispensary or clinic. They can imitate events, specific activities of people (five minutes from the head of the department, medical examination, discussion of the treatment plan) and the conditions in which the event takes place (ward, doctor's office, admissions department). The scenario of the simulation game, in addition to the plot of events, contains a description of the structure and purpose of processes and objects that simulate.

Operational games. They help to work out specific operations, for example, the emergency care algorithm for an attack of bronchial asthma, the methods of organizing and conducting training sessions, and the specifics of diagnosis. Games of this kind are held in conditions that mimic reality.

Role-playing games. They practice the tactics of behavior, actions, functions and responsibilities of a particular person. To conduct role-playing games, a model-play of the situation is developed between the participants, roles are distributed.

"Business Theater". They play some kind of situation and human behavior in this situation. The student must mobilize all his experience, knowledge, skills, be able to get used to the image of a certain person, understand his actions, assess the situation and find the right line of behavior [4]. The main objective of the staging method is to teach students to navigate in various circumstances, to give an objective assessment of their behavior. Take into account the possibilities of interaction with other people, the ability to establish contacts with them, influence their interests, activities, and adherence to treatment. For business games of this type, a scenario is drawn up, which describes a specific situation, the functions and responsibilities of the actors (sick child, doctor, and patient's relatives), their tasks.

Psychodrama and socio - drama are very close to role-playing games and the "business theater." It is also a theater, but already a socio-psychological one, in which they develop the ability to feel the situation in the team, to evaluate and change the

state of another person, the ability to get in touch with him. (Carrying out artificial ventilation of the lungs in an HIV-infected, drug-dependent teenager).

For the effective use of business games [5] in the educational process, the following rules must be observed:

1. Choosing a game theme. The theme of the game should contain a clinical situation or task, for the solution of which it is advisable to use a business game.
2. Determination of the type of business game for its intended purpose (for the formation of knowledge and skills, practical skills training, the appointment of research, diagnostics, decision-making regarding treatment, etc.).
3. Designing a business game (determining the purpose of the game, a brief description of the rules, justification of the amount of knowledge and skills that the participants of the game must have before it begins).
4. Analysis of the main laws, relationships, relationships in the simulated situation, according to the problem underlying the game.
5. Determining the roles of the participants in the game, taking into account their personal qualities, data, knowledge, abilities. However, it must be remembered that the roles that each participant performs did not remain unchanged in all games. In this case, a special place belongs to the teacher, who monitors compliance with a certain game mode, evaluates the activity of each participant, and solves disputed issues.
6. Details of the script. Since the game is based on a model of the clinical situation, events, this model must be created in advance. The sequence of stages of the game must correspond to the stages of solving the problem, it really exists in a certain situation, event.
7. The wording of the rules, the distribution of roles between players. Each participant receives a certain algorithm, which consistently sets out the tasks that he must implement in stages during the game.
8. Formation of a reward system. For each game should develop a system of incentives, fines, and rules for determining results.
9. Holding the game. Assessment of decisions made, analysis of the activities of groups of players.

10. Summing up the business game. When analyzing a business game, one should motivate evaluations of problem solving. This approach helps students learn by examples that are close to real, and determines possible solutions to errors (table 1).

Table 1

Stages of implementation of a business game

I. Preparation stage	II. Stage of holding	III. Stage of analysis and generalization
1. Development of the game • Develop a script • Business game plan • A general description of the game • The content of the briefing • Preparation of material support 2. Engaging in the game • Setting the problem, goals and objectives • Conditions, briefing. • Regulation, rules • Role allocation • Formation of groups • Consultation	1.Group work on the task • Work with sources of information • Training • «Brain storm» • Working with an agricultural technician (teacher) 2. Intergroup discussion • Group performances • Protection of results • Rules for discussion • Discussion • Expert work	• Withdrawal from the game • Analysis, reflection • Work evaluation and self-assessment • Conclusions and generalizations • Recommendations

The teacher's role in conducting the business of the game shown in Figure 1.

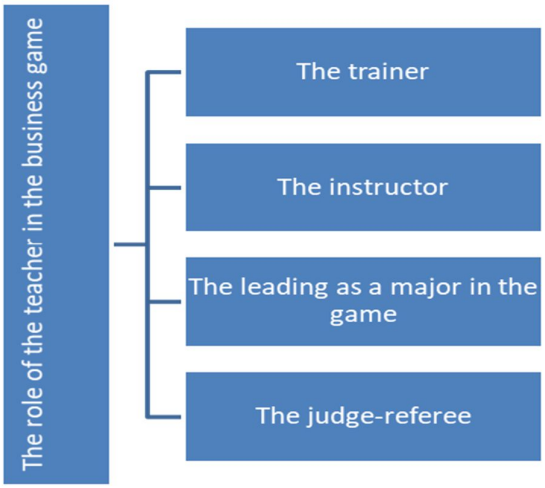

Figure 1. The role of the teacher in the business game.

A business game can be held before theoretical classes, after reading a series of lectures or organizing the entire educational process on the basis of a long (for several lessons) business game. In the first case, the business game is based only on the personal experience of students and can identify gaps in knowledge, which should be eliminated in subsequent lessons in the current section, which leads to additional interest in them. In the second case, the business game is based on the knowledge gained in previous lessons. This knowledge is not only fixed in the game, but also acquires a qualitatively new form of "existence", since it will be included in the structure of the experience of regulation of cognitive, professional activity; will change the personality characteristics of students.

The purpose of the study: to compare the effectiveness of traditional and interactive teaching methods (business games) in pediatrics teaching 4-year students of the medical faculty.

Materials and methods

A questionnaire was conducted among 61 4th year students of the Faculty of Medicine after studying the Pediatrics cycle with the help of the Melbourne Decision Making Questionnaire. All students were divided into 2 observation groups: the main group (n = 30) - students represented in the training, which used the interactive teaching method, a business game; control group (n = 31) - students were represented in whose training traditional teaching methods were used.

MDMQ included 22 statements, which were evaluated by subjects on a 3-point scale. This questionnaire allows you to diagnose four decision-making options, interpreted as productive (vigilance) and unproductive coping (avoidance, procrastination and over-vigilance). For each of these 22 items, the respondent is asked to rate the extent to which these describe his behavior on a Likert scale ranging between "True for me" (score 2), "Sometimes true" (score 1) and "Not true for me" (score 0). The MDMQ is composed of four subscales, each related to one of the DM styles described by Janis and Mann's conflict theory [6].

A meaningful interpretation was made by summing up the scores for the following copings. The vigilance scale, the only one to tap into an adaptive decision- making (DM) style, is composed of six items that describe a thoughtful and cautious approach to DM (e.g., "When making decisions I like to collect a lot of information."). *Vigilance* is the main stylistic characteristic of a person as a decision-maker, associated with cognitive complexity, the need for knowledge and tolerance for uncertainty. Clarification of the goals and objectives of the solution, consideration of alternatives associated with the search for information, assimilation of it “without prejudice” and evaluation before a choice.

The procrastination subscale, composed of five items, contains statements such as "Even after I have made a decision I delay acting upon it." *Procrastination* - putting off a decision.

The over-vigilance subscale contains six items in total, all referring to a tendency to shift responsibility onto other individuals during situations of DM (e.g., "I prefer that people who are better informed decide for me."). *Over-vigilance* - unjustified "throwing" between different alternatives, impulsive decision-making, promising to get rid of the situation; in extreme forms - a “panic” in the choice between alternatives.

Both procrastination and buck-passing are considered avoidant styles of DM. The last subscale refers to hypervigilance, which leads the individual to seize impulsively and uncritically upon any alternative available in a desperate attempt to end the stress caused by the DM situation (e.g., "I cannot think straight if I have to make a decision

in a hurry"). *Avoidance* - avoiding independent decision making, shifting responsibility and rationalizing dubious alternatives.

For statistical processing of the results of the study, methods of variation statistics were used using the Microsoft Office Excel 2016 computer software package adapted for biomedical research with the calculation of the paired Student criterion to compare the effectiveness of various treatment methods in children.

Results

The average age of students in the main group was 20 ± 1.4 years, and in the control group, 21 ± 0.2 years ($p > 0.05$). The number of young men in the main group was 61% (19), in the control group 58% (18), $p>0.05$. The number of people after graduating from medical school in the main group is 10% (3), in the control group - 13% (4), $p>0.05$. The number of people working as paramedical staff while studying in the main group is 10% (3), in the control group - 6% (2), $p>0.05$.

Because of questioning students of the 4th year of the Faculty of Medicine, we received the following results in the main group: vigilance - 78% (23), avoidance - 12% (4), procrastination - 8% (2), over-vigilance - 2% (1). Students in the control group: vigilance - 56% (17), $p<0.05$, avoidance – 18% (6), $p<0.05$, procrastination - 22% (7), $p<0.05$, over-vigilance - 4% (1), $p>0.05$.

Discussion

The results we obtained when using the MDMQ indicate that the productive type of DM is statistically higher in the main group of students (78%). In the control group, unproductive types of DM prevailed twice as often in 44% of respondents, compared with the main group in 22%. Of the unproductive types of decision-making, procrastination prevailed in the control group in 22% of students. At the same time, there was no statistically significant difference in the observation groups for such decision-making coping, as over-vigilance.

Therefore, the business game belongs to the active teaching methods that ensure the student's active creative activity, create conditions for increased motivation and emotionality, develop critical thinking and stimulate the ability to make decisions in the face of a shortage of time [7, 8]. The introduction of an interactive method of

teaching a business game increases the productive component in the formation of decision-making in vocational training for students of the medical faculty [9].

The significant advantages of introducing a business game into the educational process are the following:

1). The game is a well-known, familiar and beloved form of activity for a person of any age.

2). The game is one of the most effective means of activation, which attracts participants to the game due to the substantial nature of the game situation itself, and causes them high emotional and physical stress. The game overcomes difficulties, obstacles, and psychological barriers much easier.

3). The game is motivational in nature. In relation to cognitive activity, it requires and causes the participants initiative, perseverance, creativity, imagination, orientation.

4). The game is multifunctional, its impact on a person cannot be limited to any one aspect, but all its possible actions are updated simultaneously.

5). The game is mainly a collective, group form of activity, which is based on the competitive aspect. However, not only a person can act as a rival, but also circumstances, and he himself (overcoming himself, his result).

6). The game levels the value of the final result. In the game, the participant is satisfied with any prize: material, moral (encouragement, diploma, wide announcement of the result), psychological (self-affirmation, confirmation of self-esteem) and others. Moreover, in-group activity, the participant perceives the result through the prism of general success, identifying the success of the group, team as their own.

7). The game, in training, is distinguished by the presence of a clearly set goal and, accordingly, a pedagogical result.

When introducing business games into our own pedagogical activity, we noted that the game support for studying the material allows us to maintain a constant high interest of students in the content of the course activates their independent activity, forms and consolidates practical skills [10, 11].

In addition, namely:

- Immerse students in an atmosphere of intellectual activity, very close to the professional practical work of a doctor in recognizing patient problems and planning treatment interventions
- Create a dynamically changing picture depending on the correct or erroneous actions and decisions;
- Have a certain educational function: increasing the sense of duty and responsibility in professional activities;
- Form the ability to conduct differential diagnostics of the patient's priority problems in the shortest way, in the shortest time, and prescribe the optimal tactics for organizing care using the most simple and convenient methods;
- Affect the creation of an optimal psychological climate for communication with patients, their relatives, and work colleagues;
- Contribute to operating effectively in the conditions of multidisciplinary clinics, departments, institutes, and in the primary outpatient network - at a reception in a family-type outpatient clinic, ambulance, in the role of a family primary care doctor;
- Control professional training, become a barrier to the patient's bed, letting only professionally trained specialists to the patient.

Conclusions

Modeling the professional activity of a doctor in a team of a medical institution with the help of an educational game will, in principle, help to better prepare the student for professional activities. In other words, medical games must model complex problems like Doctors of the Health Care System.

The main purpose of business games is to reduce the degree of novelty and unexpectedness of potential production situations for students. Is it worth recalling that the "production sphere" of a doctor is a sick person? The unexpectedness of the situation for him in difficult cases turns into a very real death of the patient.

Therefore, the main thing is to model the clinical work of a future specialist, and here clinical games are most justified, the meaning of which is to create the most realistic model of professional work with patients.

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