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GAMING TECHNOLOGIES AS A MEAN OF DEVELOPMENT OF MOTIVATION OF STUDENTS

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Abstract

In this article we examined the specific features of the introduction of business games as an active method of learning in the educational process. Classification of gaming technologies and tools of active forms of training is offered. Advantages of game technologies are revealed: high speed of training, continuity of activity of pupils, need to undertake conscious actions and others. Mechanisms of disclosure of internal reserves of the student stimulating their activity are shown. Requirements to conditions of realization of the basic educational programs in higher educational institutions are defined. The relevance of the study is due to the objective transformations taking place in our society. First of all, it is the transition to democratic relations and the rejection of the authoritarian system of education. The main goal of professional education is the formation of a person capable of realizing their capabilities, healthy, socially stable and at the same time able to adapt, develop and change their own strategy in the changing circumstances of life and be happy. The need to prepare a specialist, competitive in the labor market, requires the use of game learning technologies that stimulate cognitive activity of the student, form a valuable attitude to educational and professional activities and contribute to the maximum self-realization of the individual at the stage of primary vocational education.

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Keywords: Business game, educational process, game, problem training, search and creative activity.



1. Introduction

Higher education occupies a special place in the educational system, as it directly prepares young people for work, while ensuring a multifaceted intellectual development. Thus, before the higher school, according to Popova et al. (2017) the task is to train specialists with not only professional, spiritual and moral potential, but also ready for independent creative search, growth and self-development that can easily integrate into modern living conditions. Gulk (2016) notes that an important condition for the qualitative preparation of students is the involvement and interest of teachers, the use of modern integrative technologies in their work.

Pozdeeva, Trostinskaya, Evseeva, and Ivanova (2017) note that the main goal of professional education is the formation of a person's ability to adapt, develop and change their own strategies in the changing circumstances of life and be happy.

An important factor for the development of motivation for learning in the opinion of Bylieva, Lobatyuk, and Rubtsova, (2018) is the use in the educational process of modern telecommunication technologies. In particular, as the researchers note, Internet resources provide a wide range of opportunities for students to enter an authentic intercultural space and game interaction, which has a positive effect on the development of communicative skills. Vdovina (2017) note that modern information and computer technologies allow to apply a differentiated approach to each student, taking into account the personal interests and needs of trainees, and thus improving the quality of higher education.

The inclusion of Russia in the Bologna process has opened up new opportunities for the promotion of Russian education in the international arena. International trends in education indicate the transition from the traditional approach in teaching, focused on the activities of the teacher and the educational content covered in the lectures, to the student-centered approach, where the focus is on the cognitive activity of students (Kruglikov & Kasyanik, 2015).

Game technologies contribute to the development of the motivational potential of the subjects of the educational process (Stenros, 2016).

- 1.1. Motivation of educational activity of the student is a set of motives which in the course of the interaction determine activity of the subject in educational process and provide a professional orientation of self-development
- 1.2. Features of motivation of educational activity of students are: tendency to the domination of motives of mastering a profession; emergence of pronounced aspiration to receiving qualitative education, interesting work, strengthening the installation of good living conditions and material security through successful professional activity; close interlacing of cognitive motives with motives of professional self-determination and self-development.
- 1.3. Development of motivation of educational activity is a process of change of hierarchical structure of motives where motives of self-education, self-development, mastering a profession become the most actual. The development of teaching motivation is characterized by a change in students' attitude to educational activities from negative or neutral (indifferent) to active, personal, creative.

Criteria of formation of motivation of educational activity of the student act internal and external indicators characterizing its educational activity. External indicators are high academic performance in all academic disciplines, high activity in the classroom, a creative approach to the implementation of educational tasks, initiative, interest in the subject. The internal indicators include the readiness of the individual to self-education and self-development, obtain additional knowledge; sustainable desire to master the profession (Gulk, 2016).

A game as a form of competence-based learning model becomes an innovative means of implementing the tasks of the third generation GEF VPO.

Game as a phenomenon of culture has interested scientists since ancient times. J. J. Rousseau, I. Kant, F. Schiller, I. Hoffmann, noted the importance of the game in the dialogue of cultures in the process of socialization of the personality; V. Shtern, K. Levin, J. Piaget, E. Bern seen in the game the possibilities for psychological development of the individual; Maslow pointed out the self-actualization of personality in the course of the game. The first ever business game was developed and held in the USSR in 1932 at the Academy of national economy and was intended for retraining of business executives-practitioners. The method was immediately recognized, but in 1938, business games in our country were banned. Their second birth occurred only in the 60s, after the first business games in the United States. The undoubted advantages of such training are the high efficiency of training and activation of cognitive processes of higher orders due to a number of distinctive features (Kruglikov & Olennikova, 2015).

2. Problem Statement

Game technologies in the system of higher education are, in our opinion, the so — called mind games, implemented according to the rules, which are aimed primarily at the development of students' professionally significant communicative competence in the interactive field of interaction.

The game contains elements of reality, it simulates real processes and, therefore, is a powerful educational tool (Laurischkat & Viertelhausen, 2017). The outcome of the game is not known in advance, it depends on the actions of the players, so the role of each participant is significant, even if their positions are not equal. Each participant is responsible for their own decisions, but this responsibility is limited to the game situation, so mistakes are not able to cause real damage to anyone or anything that allows you to focus on getting a positive experience. During the game, players constantly perform certain actions, using their knowledge and analyzing the results of their own actions and the actions of partners or rivals. The game is attractive in itself, participation in it is interesting, and the development and improvement of skills, playing becomes the result of gaming activities, because it provides a solution to the tasks set within the game. Thus, we formulate the elements of the lesson, built on a business game:

- Orientation. Representation of notions and concepts that are used in the game. Formulation of aims of the game.
- Training. Distribution of roles. Setting player goals. Setting the rules of the game. Procedure definition. A trial exercise if necessary.
- Conduction. The conduct of the game. Intermediate control of procedures and results.
 Explanation of errors. Continuation of the game.

- Discussion. The summary of events. Discussion of challenges and discoveries. Analysis of game results. Comparison of the game with reality. Connection with the content of the training course.
- Completion. Repetition of basic concepts and concepts. Summing up and conclusions.

3. Research Questions

- 3.1. Research analysis dedicated to the studies of game technologies in universities.
- 3.2. Learn the efficiency of games by introducing them into the educational process.
- 3.3. Studying the difficulties that a lecture may encounter while using the game technologies in universities.
- 3.4. Description advantages of game technologies.

Game technology allows you to include the student in the learning process at three levels: intellectual, social, individual.

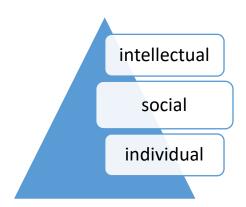


Figure 01. The main levels of development of motivational potential of subjects of educational process by means of game technologies.

At the intellectual level, game technologies have a positive impact on learning, learn to solve nonstandard problems, think creatively. At the social level-contribute to the development of communication skills, teach cooperation and dialogue communication. At the personal level, gaming technologies lead to the growth and development of individual abilities, the disclosure of personal potential, the qualitative mastery of knowledge, skills and professional activity.

High speed of learning in game situations is achieved due to the continuous activity of students due to the constant need to take conscious action, as well as the presence of operational feedback aimed at correcting inefficient or erroneous decisions. The strength of assimilation of new material is provided by the emotional involvement of participants in the game, the ability to directly test new experience in practice and evaluate the results of their own efforts. Studies show that the events experienced by the participants of the game interaction are stored in their memory for a much longer time.

However, the practical application of game technologies of active learning involves some difficulties. Modeling of real processes in the framework of the game often involves simplification of reality, consisting in abstraction from some unimportant aspects. In this sense, there is a risk of

oversimplifying the true state of Affairs, which can be a source of erroneous knowledge and thus cause harm to the educational process. Many games do not fit into the traditional training session and require a major restructuring of the educational process, special rooms for group and session work, multimedia equipment and computer equipment. In addition, the use of active teaching methods imposes increased requirements on the methodological level and qualifications of the teacher and requires serious preliminary training. Nevertheless, the games are widely used in the training of managers, teachers, psychologists and specialists of social and humanitarian profile. In particular, the following games have become widely known:

Game 1. Working in pairs

Students actively interact with each other, take turns to check the correctness of the job, brought up qualities such as the ability to listen to answers and not interrupt each other, improving the ability to negotiate, consistently, together to do the work. Skills of cooperation in a situation of chamber communication are developed.

Game 2. Roundelay

Students perform the task in turn, brought up qualities such as the ability to listen to answers and not interrupt each other, fixed skills of arbitrary behavior, selective and distributed attention.

Game 3. Large circle

It allows each student to speak and develop communication skills, establish cause-effect relationships, draw conclusions from the information and solve the problem.

Game 4. Carousel

Two rings are formed: internal and external. The inner ring is the students standing still facing the outer circle, and the outer ring is the students moving in a circle every 30 seconds. Thus, they have time to talk for a few minutes a few topics and try to convince the right interlocutor. It is introduced for the organization of work in pairs, stimulates communication between students, forms such moral and volitional qualities as mutual assistance, skills of cooperation.

Game 5. Work in small groups (threes)

The use of the technology of group work "in threes" gives the opportunity to work in the classroom to all students. Students learn to evaluate their work, the work of a friend, to communicate, to help each other. The principle of cooperation in the learning process becomes leading

Game 6. Aquarium

The form of dialogue, where students are asked to discuss the problem "in the face of the public", is that several students play the situation in a circle, and the rest are watching and analyzing. Gives an opportunity to see their peers from the outside, to see how they communicate, how to react to someone else's thought, how to settle the impending conflict, how to argue their thoughts

Game 7. Chain

The basis of this technology is a consistent solution of one problem by each participant. The presence of a common goal, one common result creates an atmosphere of empathy and mutual assistance, makes us communicate with each other, offer options for solving tasks, forms students 'ability to work in a team.

Game 8. The tree of knowledge

It develops communication skills, the ability to negotiate, to solve common problems. Leavespictures or diagrams of teachers in advance hangs them on a tree. Students agree, join in small groups, perform the task, and one student talks about how they completed the task, the group listens, analyzes and gives an assessment.

Game 9. Interview

It is used at the stage of consolidation or generalization of knowledge, summarizing the work. Through the use of this technology, students actively develop dialogical speech, which encourages them to interact.

We will reveal the main advantages of game technologies of active learning:

- the game is attractive in itself, participation in it is interesting, which encourages students to acquire the missing knowledge on their own, because this is what provides the solution to the tasks set in the game;
- direct application of knowledge (here and now);
- development of research skills (identification of problems, collection and processing of information, analysis, construction and testing of hypotheses);
- positive side-effects (acquisition of adverse information and knowledge, not directly related to academic discipline);
- the outcome of the game is not known in advance, so the role of each participant is significant;
- each player's responsibility for their own decisions is limited to the game situation, allowing you to focus on getting a positive experience;
- development of communication skills (work in groups).

4. Purpose of the Study

To study modern game technologies applied in universities. Substantiation of the possibility of using game technologies in the university to increase student motivation.

5. Research Methods

Methods of research include:

- analysis of the pedagogical, socio-psychological, special professional literature of the research problem;
- analysis of products of activity and analysis of materials containing data of pedagogical, methodological and psychological bases in the process of preparing students;
- pedagogical observations, experiment, game modeling, forecasting, method of expert assessments.

6. Findings

Research confirms that it is in active classes that students often learn the material most fully and usefully for themselves. The disclosure of internal resources of the student, promoting student activities on elaboration and transformation of their own experience and expertise in the use of active methods of

helping the young person to assess their abilities and opportunities, to correctly identify the direction of professional formation and development, contributes to constructive changes in the educational process.

7. Conclusion

In the traditional system of education, the activity of students is reduced to the assimilation of educational material, but the application of knowledge in practice is delayed in time, and students often do not know where and how they can do it, which significantly reduces motivation. In contrast, active teaching methods stimulate the activation of students' cognitive activity, creating incentives to study the material and obtain the necessary information that is used by them directly and immediately, and the assimilation of new material by students is the result of the activity in which they are involved. Interactive learning is conversational learning that involves interaction between the teacher and the learner. The educational process is organized in such a way that almost all students are involved in the process of learning, they have the opportunity to understand and reflect on what they know and think.

References

- Bylieva, D., Lobatyuk, V., & Rubtsova, A. (2018). Homo Virtualis: existence in Internet space. SHS Web of Conferences, 44, 00-21 (2018) CC-TESC2018. DOI: 10.1051/shsconf/20184400021
- Gulk, E.B. (2016). Ispolzovanie kollectivnoy organizationnoy formi obucheniya pri prepodavanii gumanitarnix distiplin v techicheskom vyze [Use of the collective organizational form of training in the teaching of humanitarian disciplines in a technicaluniversity (standards CDIO)]. In *St. Petersburg Polytechnic University of Peter the Great. Science Week SPbPU*, (pp. 328-332). St.Petersburg State Polythechnical University [in Rus.].
- Kruglikov, V.N., & Kasyanik, P.M. (2015). Rol aktivnogo obucheniya v kontseptsii globalnogo inzhenernogo obrazovaniya [The role of active learning in the concept of global engineering education (standards CDIO)]. St.Petersburg State Polythechnical University. Journal of Humanities and Social Sciences, 3, 159-168. [in Rus.]. doi: 10.5862/JHSS.227.20
- Kruglikov, V.N., & Olennikova, M.V. (2015). *Interactivnie formi professionalnogo obuchenia ychebnoe pocobie (standards CDIO). [Interactive forms of vocational training: textbook]*. St. Petersburg State Polytechnic University. [in Rus.].
- Laurischkat, K., & Viertelhausen, A. (2017). Business Model Gaming: A Game-Based Methodology for E-Mobility Business Model Innovation. *Procedia CIRP*, 64, 115-120. doi:10.1016/j.procir.2017.03.051
- Popova, N.V., Almazova, N.I., Khalyapina, L.P., & Tret'jakova, G.V. (2017). Intercollegiate telecommunication project as means of enhancing learner motivation in foreign language teaching. In P. Isaias (Ed.), *Proceedings of the 15th international conference "E-society 2017"* (pp. 202-206) Hungary, Budapest: International Association for Development of the Information Society (IADIS) [in Rus.].
- Pozdeeva, E.G., Trostinskaya, I.R., Evseeva, L.I., & Ivanova R.A. (2017). Problems Of Personality Type Transformation In Current Conditions Of Russian Society RPTSS 2017 International Conference on Research Paradigms Transformation in Social Sciences, *The European Proceedings of Social & Behavioural Sciences EpSBS, Vol. XXXV*, 1092-1099. [in Rus.] doi: 10.15405/epsbs.2018.02.128
- Stenros, J. (2016). The Game Definition. Game: A Review. *Games and Culture*, 12(6), 499-520. DOI: 10.1177/1555412016655679
- Vdovina, E. (2017). University CLIL: Multimodal conceptualization of the academic content in English. In T. Mirola (Ed.) *Update 2017 on higher education* (pp.80-89). Lappeenranta: Saimaa University of Applied Sciences.[in Rus.].