

Situational and game technologies of training in students' professional competence development

Ситуативно-игровые технологии обучения в формировании профессиональной компетентности студента

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Abstract

The transition from traditional educational paradigm to competence one has marked new ways of higher educational institutions development. The implementation of modern Federal state educational standards requirements has determined the need to use modern specialist methods in training that develop students' competence and the ability to carry out highly qualified professional activities. Higher education institutions face the task of implementing technologies that contribute to the development of practical orientation of students, their independence in this process. The purpose of the article is to reveal the experience of using situational-game technologies of training, as one of the most practice-oriented, aimed at activating students' students, contributing to professional competence development. The concept of "technology" came to education from the sphere of production. Technologization implies a clear subordination to a certain algorithm of actions, so the technology allows you to achieve specific results in the allotted amount of time. In the field of professional education, technology has changed, but its meaning remains the same-the

Аннотация

Переход от традиционной образовательной парадигмы к компетентностной обозначил новые пути развития высших учебных заведений. Реализация требований современных Федеральных государственных образовательных стандартов определила необходимость использования в подготовке современного специалиста способов, формирующих его компетентность, способность к осуществлению высококвалифицированной профессиональной деятельности. Перед высшими учебными заведениями стоит задача реализации технологий, способствующих развитию практической направленности деятельности студентов, их самостоятельности в этом процессе. Цель статьи заключается в раскрытии опыта применения ситуативно-игровых технологий обучения, как одних из самых практико-ориентированных, направленных на активизацию деятельности обучающихся, способствующих формированию профессиональной компетентности. Понятие «технология» пришло в образование из сферы производства.

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regulation of the activities of the subjects of the educational process to achieve the planned goals. The article defines the essence of educational technologies in the training of University students, reveals the features of their application, the role and advantages of situational and game technologies of training in the conditions of implementation of the competence approach. The research given in this article shows the importance of game educational technologies and the prospects of their use in the training a highly qualified, creative specialist who can quickly solve professional problems in non-standard ways.

Key Words: heuristic technologies, professional education, problem-based learning, personality-oriented technologies, students.

Introduction

Comparing traditional vocational training and innovative one that has replaced it, it is important to take into account educational experience of previous generations (Nikonova et al., 2019b). Despite the versatility and effectiveness of modern educational solutions, it is necessary to build on existing methods, tools and technologies, however, taking into account the influence of modern trends (Pliushch et al., 2018). In this case, the process of forming the competence of the graduate will become more complete, interesting, motivating for further study of disciplines (Ihnatenko et al., 2018). In this regard, we turn to the implementation of educational technologies that have existed in educational practice for a long time. However, they have acquired special relevance only now, and, interacting with innovative technologies, become valuable in the preparation of students (Klinkov et al., 2019). Situational-game technologies allow "immersing" the student in professional conditions, to take on various professional roles for the implementation of future professional activities (Ivanova et al., 2019). The educational process with the use of game technologies becomes more active and

Технологизация подразумевает четкое подчинение определенному алгоритму действий, поэтому технология позволяет достичь конкретных результатов за отведенное количество времени. В сфере профессионального образования технология претерпела изменения, однако ее смысл остался прежним – регламентация деятельности субъектов образовательного процесса для достижения запланированных целей. В статье определена сущность образовательных технологий в подготовке студентов вуза, раскрыты особенности их применения, указаны роль и преимущества ситуативно-игровых технологий обучения в условиях реализации компетентностного подхода. Исследование, приводимое в данной статье показывает значимость игровых образовательных технологий, перспективность их использования в формировании высококвалифицированного, творческого специалиста, способного оперативно решать профессиональные задачи нестандартными способами.

Ключевые слова: компетенции, компетентность, образовательные технологии, практическая направленность, ситуационные и игровые технологии.

motivates students to study courses and develop competencies. In such conditions, they feel more confident (Vaganova et al., 2019a). The Advisory role of the teacher provides students with the necessary freedom to perform the task, which, however, does not get out of control due to the supervision of the teacher. So the student's activity becomes productive and competent. While developing the implementation of one technology, it is impossible not to pay attention to other innovative technologies, as they interact with each other. It is impossible to achieve high results by trying to use only one educational technology, so we consider them in interaction and evaluate their mutual influence (Iyashenko et al., 2019b). We chose gaming technologies as the basis, because they have the greatest potential in the development of the student's activity position in conditions close to professional (Rakhimbayeva et al., 2019).

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modern educational solutions, it is necessary to build on existing methods, tools and technologies, however, taking into account the influence of modern trends (Pliushch et al., 2018). In this case, the process of forming the competence of the graduate will become more complete, interesting, motivating for further study of disciplines (Ihnatenko et al., 2018). In this regard, we turn to the implementation of educational technologies that have existed in educational practice for a long time. However, they have acquired special relevance only now, and, interacting with innovative technologies, become valuable in the preparation of students (Klinkov et al., 2019). Situational-game technologies allow "immersing" the student in professional conditions, to take on various professional roles for the implementation of future professional activities (Ivanova et al., 2019). The educational process with the use of game technologies becomes more active and motivates students to study courses and develop competencies. In such conditions, they feel more confident (Vaganova et al., 2019a). The Advisory role of the teacher provides students with the necessary freedom to perform the task, which, however, does not get out of control due to the supervision of the teacher. So the student's activity becomes productive and competent. While developing the implementation of one technology, it is impossible not to pay attention to other innovative technologies, as they interact with each other. It is impossible to achieve high results by trying to use only one educational technology, so we consider them in interaction and evaluate their mutual influence (Ilyashenko et al., 2019b). We chose gaming technologies as the basis, because they have the greatest potential in the development of the student's activity position in conditions close to professional (Rakhimbayeva et al., 2019). Other technologies are also an integral part of the formation of a specialist and are used in conjunction with game technologies that activate the activity position of the student (Chirva et al., 2018). Collaborative learning technologies, information technologies, problem-based learning, interactive technologies are most often the maintainers in the implementation of game technologies (Ilyashenko et al., 2019a). One of the most important components of a student's competence is activity - his ability to perform certain functions on the basis of existing experience and acquired knowledge (Smirnova et al., 2018a). The formation of this component is aimed at the development of skills of professional activity (Smirnova et al., 2019). For the future teacher of vocational training, the activity component involves the design, development, correction and

application of educational technologies themselves within the educational process when teaching students of secondary vocational schools. The activity component is formed in the course of practical training, which again actualizes the use of gaming technologies. Situational-game technologies allow stimulating educational and cognitive activity of students (Smirnova et al., 2018). Business games used in the professional training of students have a specific methodological goal, to achieve which students build a work plan (Garnevska et al., 2018). The game promotes: the development of mental activity; expansion of the sphere of professional knowledge; development of individual qualities of students; formation of independence; activation of activity position (Markova et al., 2019).

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Theoretical framework

The concept of "technology" came to education from the sphere of production (Sedykh et al., 2019). Technologization implies a clear subordination to a certain algorithm of actions, so the technology allows you to achieve specific results in the allotted amount of time (Denysenko

et al., 2018). In the field of professional education, technology has changed, but its meaning remains the same—the regulation of the activities of the subjects of the educational process to achieve the planned goals (Bulaeva et al., 2018). Today, technologization is the leading direction in the development of vocational education. Technologies make the process of a specialist competence development more effective (Prokhorova et al., 2018). Technologization in the process of education was considered by such scientists as I. I. Ilyasova, N. F. Talyzina, M. P. Choshanov, P. R. Atutov, M. V. Klarin. Researchers reveal the problems that arise in the process of technologization of education and point to its positive effects (Nikonova et al., 2019a). Technologization in the educational process provides concretization of pedagogical goals, implementation of competent search and selection of organizational forms, means and methods according to the specific pedagogical situation (Vaganova et al., 2019c). There is no consensus on the interpretation of the concept of "technology", but the analysis of the interpretations of different scientists makes it possible to identify common features of the definition (Vaganova et al., 2019f). Some researchers consider technologization to be a way of organizing professional activity on the basis of reflection and rationalization of technological tools (Vaganova et al., 2019d). Someone defines it as a set of actions to optimize the educational space, the impact on the improvement of the pedagogical system, which uses innovative technologies that promote active interaction between teachers and students (Smirnova et al., 2019).

Technologization is also defined as a conscious activity aimed at streamlining pedagogical procedures which in turn affect the achievement of planned educational results (Vaskovskaya et al., 2018). These concepts show that technologization is a process that allows you to organize the activities of the subjects of the educational process, to subordinate it to a certain algorithm to achieve a certain result (Osadchenko et al., 2019). With the development of the process of technologization, educational technologies began to appear (Markova et al., 2018a). Scientists disagree when trying to isolate the definition of educational technology (Vaganova et al., 2019a). Some believe that educational technology is a process that allows the design of learning to achieve educational outcomes (Vaganova et al., 2019b). This definition is close in content to the definition of technologization, but if technologization covers a broader field of activity, then educational

technology is used in a specific area (Kamenez et al., 2019). Other scientists define it as a systematized model that includes many actions of the subjects of the educational process in its organization and conduct (Vaganova et al., 2019e). At the moment, two main characteristics of educational technology can be distinguished: the system design of the educational process by the teacher and the guarantee of achieving the final educational result (Makhometa et al., 2018). In the organization of a competent educational process, teachers use those technologies that most of all orient the student to apply his knowledge in practice, allow him to engage in active activities, make him more independent and creative (Pichugina et al., 2019).

Methodology

Professional competence of the future teacher of vocational training consists of several components, where the activity component is one of the leading influencing the implementation of future professional activities. We checked the formation of the activity component of students' competence in 2017, when the use of business games as a technology was not widespread and some of its elements were used, and in 2018, when situational game technologies were introduced into the professional training of teachers of vocational training everywhere. The study involved future teachers of vocational training in the number of 48 people (1st group) and 45 people (2nd group). The formation of the activity component was determined by checking communicative, design, technological and reflective skills. These skills were determined by teachers in the course of control activities among students. The results were statistically processed.

Results and discussion

The organization of students' work in the framework of game technologies implementation takes place in several stages. The preparatory stage involves defining the problem and making several assumptions about possible solutions. This takes place within the framework of a discussion, namely through "brainstorming" in which students express a variety of ideas, including the most incredible, because the idea of "brainstorming" is that students learn to express themselves without fear of criticism. The correct answers are formed in the course of further analysis of the situation by students (Koshechko, et al 2018). Students are divided into groups, distribute functions. They choose sources (together with the teacher) that contain relevant information for the task. Information, interactive

technologies are actively used here, an electronic educational platform (Moodle) is used, on which tools are located that contribute to the organization of students' activities outside the classroom. Students interact independently and resolve issues through chat or personal messages (Rakhimbayeva, et al 2019). The teacher allows students to perform virtual actions on the preparation of the project with the help of a Wiki, which allows you to formalize the results obtained subsequently. Moodle allows the use of a forum that facilitates interactive interaction between students and the teacher (Abramova et al., 2018).

Students can electronically ask questions they have about the game and the learning process as a whole (Myalkina et al., 2018). At the main stage, the selection of the necessary information from the General mass, the search for facts proving a certain hypothesis by students, the analysis of the actions performed. At the final stage, students design their works, prepare presentations and use multimedia for this purpose. The game is held in classroom conditions. The teacher acts as a presenter and sums up the game. The gradual complication of tasks helps to form the activity component. Within the framework of the game, students deepen their own knowledge.

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The test of communicative skills was carried out according to the following indicators: the student is able to negotiate with his fellow students, come to a common consensus, listens to the opinion of others, but at the same time has its own reasoned position, can independently organize the process of interaction in the subgroup, is active.

Testing of design skills was carried out on such indicators as: the student is able to set clear goals and build an action plan in accordance with the regulations established by the teacher; the ability to use educational technologies in the development of any issue; the ability to adjust their own activities and the activities of their team, accompanied by criticism with appropriate arguments.

Check of technological skills was determined by the following indicators: the student knows and is ready to use technology in their own activities; the ability to gradually perform increasingly complex tasks; the ability to independently solve problems of a professional nature.

Reflexive skills were determined by the following indicators: the student is able to assess their own activities; is able to highlight the shortcomings of their work and advantages; is able to correct mistakes on their own and formulate questions to the teacher in order to correct them.

Figure 1 shows the results of two groups of students in 2017.

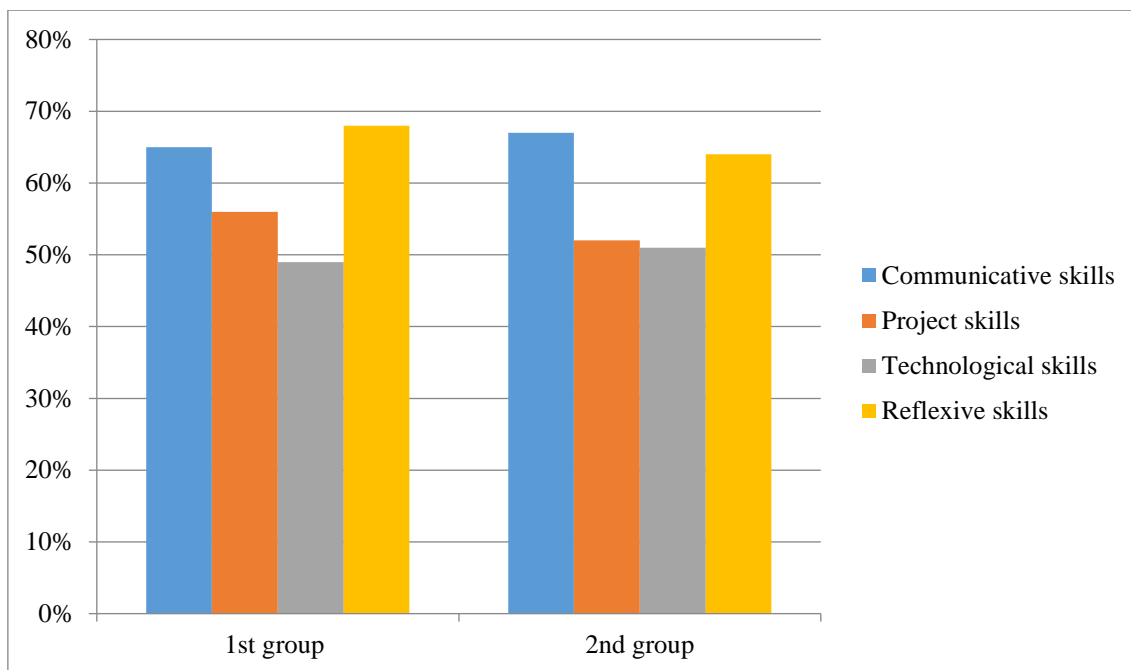


Fig. 1. The level of completeness of the action component as part of our study (2017)

The formation of communicative skills was observed in 65% of students in group 1 and 67% - in the second. Design skills were formed in 56% in group 1 and 52% - in the second. 49% had the

formation of technological skills in the first group, in the second – in 51%. 68% of students had reflexive skills in the first group, 64% - in the second.

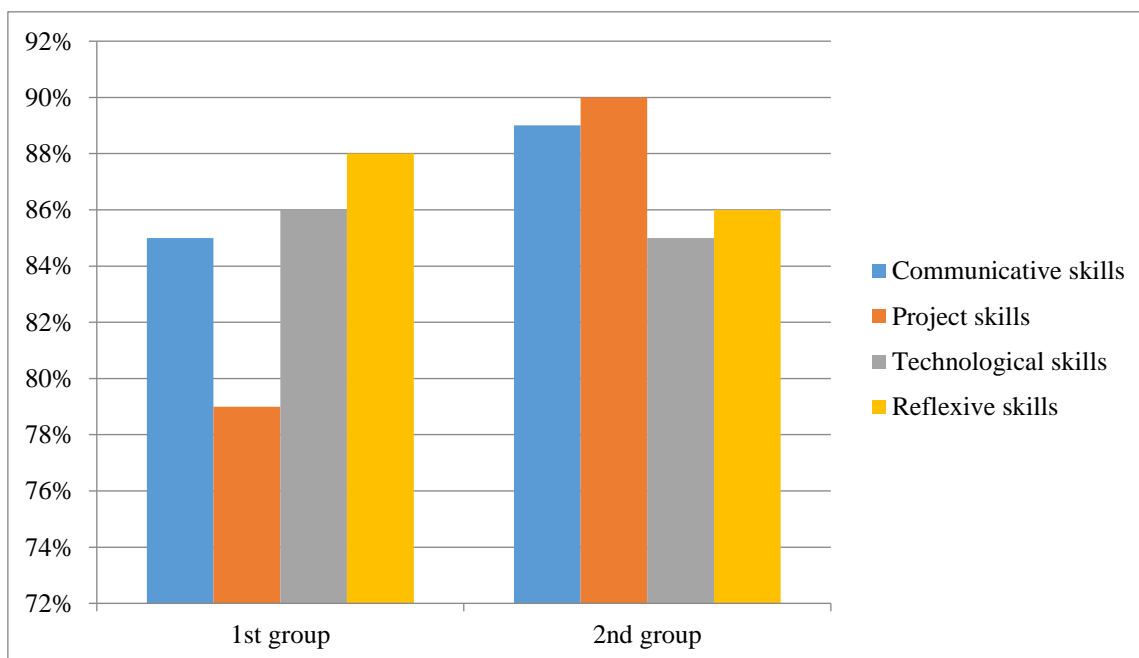


Fig. 2. The level of completeness of the action component as part of our study (2018)

After the introduction of situational-game technologies in the training of future teachers of vocational training, the results of students have become higher. In the first group, the formation of communicative skills differs already 85%, in the second group 89% of students. Design skills are formed in 79% and 90%, respectively.

Technological skills are formed in 86% and 85%, reflexive skills are observed in 88% and 86% of students.

Figure 3 shows the comparative results of 2017 and 2018.

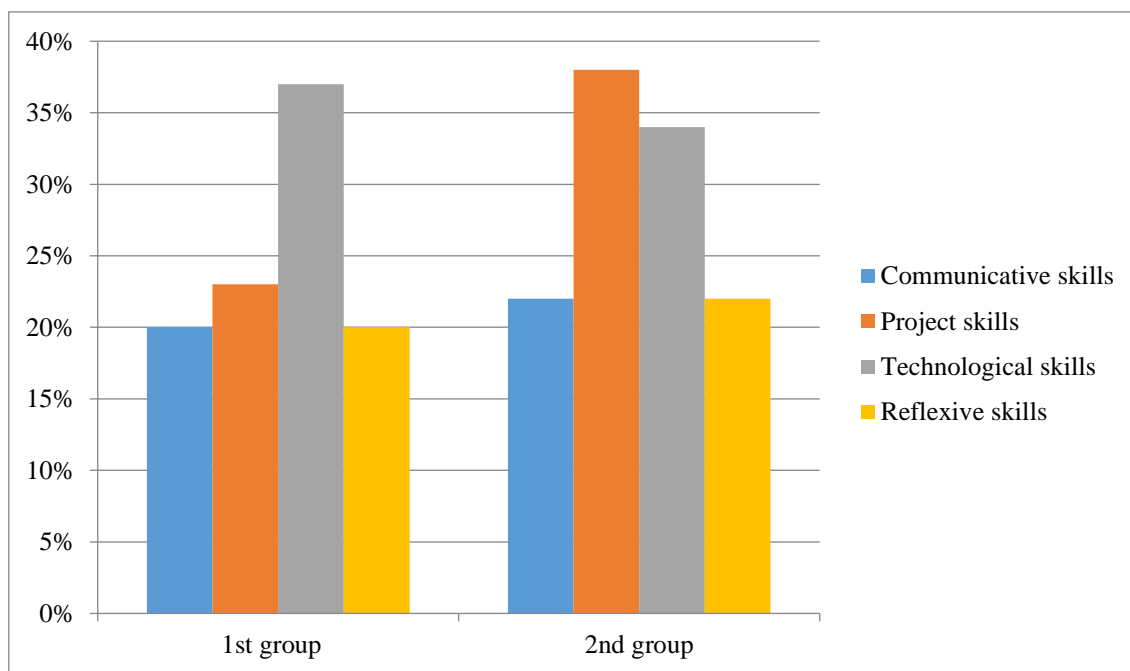


Fig. 3. The difference in the activity component development in the two groups as part of our study (2017 -2018)

In the first group, the percentage of students with formed communication skills increased by 20%, in the second-by 22%. The number of people with formed design skills increased by 23% in the first group, by 38% in the second. The number of people with formed technological skills increased by 37% and 34%, with reflexive skills by 20% and 22%. As we can see, the number of people with developed design and technological skills has increased especially. Therefore, the practical orientation of the games, allowing activating the activity position of students, forms the ability to build their own activities independently and efficiently, step by step achieving the goals.

We can say that the level of formation of the activity component has become much higher due to the introduction of situational-game technologies, immersing students in conditions close to professional.

Conclusions

We have revealed the experience of using situational-game technologies of training as one of the most practice-oriented aimed at activating students' involvement and contributing to professional competence development. In the course of research we have revealed influence of game technologies on formation of an activity component of students' competence. Checking the development of the activity component was determined by checking communicative, design, technological and reflexive skills. These skills were determined by teachers in the course of control activities among students. A study in 2017, when the use of business games as a technology was not widespread and some of its elements were used, showed that the level of skills of students is not high enough. After the audit in 2018, when situational-gaming technologies were introduced into vocational teachers training, the results were significantly

higher, which indicates the effectiveness of situational-gaming technologies and the need for their further implementation. The formation of communicative skills was observed in 65% of students in group 1 and 67% - in the second. Design skills were formed in 56% in group 1 and 52% - in the second. 49% had the formation of technological skills in the first group, in the second – in 51%. 68% of students had reflexive skills in the first group, 64% - in the second. The introduction of situational-game technologies allowed increasing the results of students. In the first group 85% of students differ in the formation of communicative skills, in the second group 89% of students. Design skills are formed in 79% and 90%, respectively. Technological skills are formed in 86% and 85%, reflective skills are observed in 88% and 86% of students. In the first group, the percentage of students with formed communication skills increased by 20%, in the second-by 22%. The number of people with formed design skills increased by 23% in the first group, by 38% in the second. The number of people with formed technological skills increased by 37% and 34%, with reflexive skills by 20% and 22%.

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