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THE EFFECTIVENESS OF THE IMPLEMENTATION OF GAME TECHNOLOGIES IN PROFESSIONAL TRAINING AT HIGHER EDUCATION INSTITUTIONS

INTRODUCTION

The variability of the world, its globalization, digitization and amorphousness set the tone for the educational environment as well, which can be seen in a number of transformations, innovations and radical modernization of the pedagogical dimension. The network society accompanies almost all spheres of human life, including the pedagogical sphere, in particular, the spectrum of teaching methods. Today's requirements are no longer reduced to the traditional presentation-explanation of program material, but direct the teacher constantly searches for innovative forms of organization of the educational process. An important transition took place in the system of educational values: the acquisition of experience in the form of informative blocks, the possession of a number of facts, statistics changed to the ability to effectively apply the necessary knowledge in the field of practical activity, that is, in the profession itself, in life; to be able to choose the main thing, to find the necessary information and to be able to filter it. The search for optimal ways and the effectiveness of the educational process will be as successful as possible if education for students is exciting, interesting, informative, motivating and creative.

Actualization of personal-oriented practices directs the teacher to use simulation-game technologies in the educational environment. The paradigm of gaming practices grew due to the fact that digital education was institutionalized rather quickly and impulsively (Kultayeva, 2020, p. 25). The difficult realities of today – the pandemic and the martial law inside the country – have forced educators to look for such approaches that would take into account sensory and unloading meaning, without overloading the student with an excessive amount of material. The educational process should be structured in such a way that it would make it possible to teach the student to perform work independently; to quickly, qualitatively and effectively learn the professional practices needed in the future.

The introduction of game elements as a sensory mechanism is designed to consolidate the communication skills and abilities that are important for the future specialist, because speed and quality give an opportunity to win in the competition for a vacant job on the labor market, and this can be achieved with the help of the joint creative work of a teacher-mentor and an active student who will be interested in realizing himself in a successful future career.

The purpose of the article is to study the effectiveness of the use of game elements of the philological cycle of disciplines as a sensory factor through the formation of basic professional and communicative competences in students of Higher Education Institutions (HEIs).

Constant updating of the content of educational material, improvement of its delivery mechanisms, adaptation to the maximum possibility of implementing a competent approach – all these things cannot be implemented without the use of innovative game practices. The modern educational space offers a fairly wide range of various game technologies, thanks to which it is possible to realize programmatic educational goals.

RESEARCH OF THE MECHANISM OF GAME TECHNOLOGIES IN A THEORETICAL AND METHODOLOGICAL WAY

The development of communicative competence as a basic property of the professional skills of a future linguist is a key goal in the training of a linguist specialist. It is worth noting that the principles of innovation and creativity, the implementation of which is possible with the use of game technologies, become the subject of the laws of Ukraine "On higher education", and the content of the doctrine "Strategy for the development of higher education in Ukraine during 2021–2031" clearly prescribes key rules, according to which taking innovative

steps becomes a mandatory condition for modernization and optimization of the educational process.

Onyshchenko is convinced that "gaming technologies are a component of modern pedagogical technologies that allow to intensify the professional training of students in Higher Education Institutions" (Onyshchenko, 2021, p. 261). The use of gaming technologies in the educational space has been the subject of research by both foreign and domestic scientists. Incidentally, this aspect can also be traced in the works of traditional educators: Komenskyi, Locke, Makarenko, Skovoroda, Specer, Ushynskyi. The modern pedagogical space is also full of a number of scientific attempts to study game mechanisms in HEIs – Holovko (2015), Hrom (2020), Kravets & Hrechanovska (2017), Machynska (2011), Yakovchuk (2016), etc.

Taking into account the stress factor, the situation of post-traumatic syndrome, which is currently experienced by the majority of Ukrainians, there is an additional need to find means of sensory therapy. Diluting intellectual work with game-like inserts makes it possible to include in the work process an involuntary act of interruption (Arestenko, 2017, pp. 20–28), which allows the soul to live in a different state, and for the process of mastering the world – orderliness of actions and a moderate sequence. The game equivalent is multifunctional: it is a factor of harmony, a means of cohesion, a component of the formation of sustainable interest, an intellectual message, a therapeutic tool, a communicative key, a means of self-expression (Arestenko, 2017, pp. 20–24).

According to the correct observation of Venher (2008, pp. 21–25), the introduction of game elements into educational practice allows to successfully combine the theoretical aspect with practice in the future. In addition, there is a formation of interest in the future profession, the student's involuntary self-encouragement for practical professional realization is observed.

The main function of game interspersions in pedagogy consists, first of all, in the formation of educational and cognitive interest as a basic component for the successful mastery of both theoretical and practical knowledge. The researcher makes a clear differentiation between the concepts of game as a process and game as a type of activity. The game as an activity involves the presence of certain structural elements, such as: goal formation, planning, concrete implementation-implementation, analysis of results. The game as a process has a slightly different "texture". It is about the presence of roles, which the participants distribute among themselves; the presence of action as a mechanism for implementing the game process; playful use of the necessary means-objects, the plot and the corresponding content.

Oleksandra Jakivna Savčenko in her own scientific studies traced the content of game activity and its functional nature (Usyk, 2021). In her studies Savčen-

ko proposes to distinguish certain constituent elements in the structure of game activity, among which: *motivational* (a component that includes needs, motives, interests, aspirations); *indicative* (this component involves the selection of means and, at the same time, ways of implementing gaming activities into the educational process); *executive* (it is about a direct set of specific actions and operations, the implementation of which allows the realization of an educational goal); *control and assessment* (implementation of corrective measures with the aim of additional stimulation to game activity as a means of mental relief in the educational process) (Usyk, 2021, pp. 94–95).

THE TECHNOLOGY OF THE GAME THROUGH THE PRISM OF THE METHODOLOGY OF TEACHING THE DISCIPLINES OF THE PHILOLOGICAL CYCLE

Game technologies are an integral component in the educational sphere, in particular, in the process of forming linguistic skills. The elements of the game will contribute not only to the development of mental and intellectual processes, but also form an increased interest to study languages and literature by students. Inclusion in a rather high motivational movement awakens the desire for creativity, the birth of extraordinary ideas, actualizes the formation of communication skills and team cooperation, which today is a component of the professional horizon.

The methodology of teaching the disciplines of the philological cycle should take into account the demands of time and at the same time take care of the prestige of the separately chosen profession, because "the intensification of the educational process sets a task for the teacher to find means to support students' interest in the educational material and to activate their work" (Dekhtyarova & Skvarcha, 2018, p. 86). The formation of basic professional competences, where communicative competence occupies a key place, is the leading goal of the educational program for the training of a linguist specialist. The rational selection of appropriate methods of working with students requires creativity, measured steps, working out goals and vision of the final result from the teacher. It is equally important to take into account the reserve capabilities of students (Dekhtyarova & Skvarcha, 2018, p. 86), especially in the extremely difficult conditions of war and constant anxiety.

Considering the importance of introducing game elements into educational activities, it is advisable to highlight a range of functions that are successfully implemented while working with students in classes (see Table 1).

Table 1

Functional possibilities of the game method

№	Function	Description
1	educational and motivating	contributes to the formation of students' feelings of their own importance and, at the same time, the desire to understand everything that the teacher presents; the desire to want more, to discover new things, to learn continuously
2	optimizing	this function allows you to build a learning process according to the principle of a parabola – from stress to relaxation, from concentration to relaxation, from complex to simple, and vice versa
3	sociocultural	by participating in the game in class, students learn to interact successfully, improve the level of their own culture, be a strategist and know how to plan
4	creative and constructive	playful moments for a "serious" type of work give a great opportunity to realize a certain idea, to feel like the author of an idea or product
5	sensory and relaxing	the game allows you to switch, relax, feel yourself, your body and capabilities. Learning a language is not just monotonous sitting at a desk. You can memorize new vocabulary from English or German through singing or dancing, and you can learn atypical accentuations of words in the Ukrainian language by rapping with these words

Source: author development.

RESEARCH METHODS AND TECHNIQUES

In order to check how effective the use of game technologies in HEIs is today, their dilution of theoretical program material and practical forms of work, separate blocks of game elements were developed and introduced into the educational process. Later, in the course of long-term observation, the paradigm of the effectiveness of the implementation of game methods was checked and studied. Among the students of certain groups, game elements were used extremely rarely, but in other groups – more purposefully and systematically. In addition, a survey was conducted among the teaching staff, which showed how often the teacher uses game techniques in work and how effective such use is.

Let us analyze the experimental part of our research in more detail. The students of Zhytomyr Polytechnic were the target audience for studying and testing the effectiveness of game technologies in the educational mechanism. 252 students (12 groups) of economic, technical and humanitarian specialties took part in the experiment. In 7 groups (59%) game technologies were actively used, in

5 (41%) the educational process took place without active inclusion of the game method. The pedagogical experiment lasted during the first term of the 2022–2023 academic year.

During the pedagogical observation, it was noted that the students' success was quite high when we used the techniques of improvised role-playing (the student had to imagine himself as a lecturer for 5 minutes and comment on a certain problem, offer his point of view on it). Those types of work that provided for the presence of so-called expectations (Onyshchenko, 2021, p. 202) are quite productive. The game evaluation system, introduction of rules, building fruitful interaction – all these factors also proved a positive dynamic not only during the lesson as an educational mechanism, but contributed to improve the level of memorization of the program material. In those groups where game technologies were actively used, it was noticed that students are attracted to tasks that are designed creatively, have a game context and involve a problematic basis (66%), the motivational component of the game was noted by 28% of the students. They also emphased that such kind of work activated their cognitive interest.

Distance learning and the intensive implementation of digitization technologies in the educational process in general contributed to rather active use of gadget mechanisms during classes. Our proposed use of QR codes with a link to the online game has worked well in the process of acquiring practical skills while learning foreign languages. Thus, 82% of students noted such a move as quite modern and creative. 15% encountered technical difficulties; moreover there were those who did not like such an idea – 3%. Today there are quite a lot of game platforms where you can play and learn.

In the process of teaching linguistic disciplines, it is important to build a step-by-step mechanism. A significant role belongs to the teacher, because he must clearly understand the dosage and appropriateness of game techniques. A laboratory or seminar allows you to simulate the appropriate conditions for the playing field, outline scenarios and roles, define a problem situation, involve students in team solving the problem. The teacher should set the time parameters for the deployment of the game, structurally present the rules of this interaction, possible assessments and predict the result. Shcherban notes that the effectiveness of the game increases if the so-called competitive effect is included (Shcherban, 2014, p. 288). The competition mechanism promotes the strengthening of the motivational component and creates interest in educational activities among students.

Let us consider the spectrum of game techniques that we used during the pedagogical experiment (see Table 2).

Table 2

Game methods: description, functionality and efficiency

№	Game technology (element, game)	Description	Effectiveness (%)
1	"Business presentation"	This type of game activity was used during the teaching of the disciplines: "Ukrainian language and academic writing", "Business Ukrainian language", "Foreign language for specific purpose". Its effectiveness was tested during students' modeling of business communication situations (telephone conversation, interview with an employer, business meeting, etc.). The main task of this game method was the ability to reproduce the appropriate communicative speed, to make the correct strategy of communicative behavior, to establish a business contact with the further realization of the set goals. This method involved the distribution of functional responsibilities between students, modeling of the appropriate communicative scenario, its direct programming and further discussion	67
2	"Blitz-content"	This mechanism allows you to carry out a systematic, competitive survey based on the principle of "brainstorming" (Halitsyna, 2005, p. 128). This type of activity contributes to the "accumulation" and activation of "forms of active learning" (Machynska, 2011, p. 21). This game format provides support for students' educational activity. The characteristic advantages of this game technology are the maximum involvement of participants, spontaneity and speed of implementation, obtaining quick results. The specified technique was used during all educational disciplines of the philological cycle	78
3	Business simulation game	A work format that ensures the search for solutions in a certain problem-communication situation. The scenario of the simulation game is built taking into account the situation, goals, purpose. Moreover, it is appropriate to implement such a game technique in classes on the subjects: "Ukrainian language and academic writing", "Business Ukrainian language", "Foreign language for specific purpose", "Culture of business communication", "Media linguistics". Such work is aimed at practicing with students various communicative and behavioral tactics, functions, roles and responsibilities	55
4	"Role reincarnation"	It has a tactic quite close to the previous type, which the task was to "try on" a certain social role (for example, when students act out various communicative situations in foreign language classes). Moreover, this type of game is appropriate while studying foreign or Ukrainian literature: the student is offered to play the hero's situation and suggest possible ways out of a problematic situation	58

Tab. 2 cont.

№	Game technology (element, game)	Description	Effectiveness (%)
5	"Guess by Gestures"	The game practice "Guess by Gestures" was used during the learning of the topic "Language as a sign system" in the laboratory classes on the introduction to general linguistics. Students practiced non-verbal communication. This practice develops creativity, and the use of proxemic, kinesic, extralinguistic means contributes to the expression of communication	89
6	"Constructor"	Pretty good game practice while working in foreign language classes. Students are offered the task of constructing grammatically correct sentences from a set of appropriate elements. The task has a time limit and a competitive basis, which makes it interesting, improvisational and productive (Dekhtyarova and Skvarcha, 2018, p. 87)	90
7	"Forecast"	Such a game is relevant in the process of listening in foreign language classes. Students first listen to the text, then the text is screened by showing the film. At a certain moment, the teacher stops the show, and the students have to reproduce the hero's line in a foreign language. This technique contributes to the development of phonemic lisnening and forms memory mechanisms	86
8	"Mirror"	A game in pairs, which is effective to use in foreign language classes. One of the pair looks into the "mirror", the other is the "mirror". The phrase is first spoken in the native language, the other participant must quickly translate it into a foreign language, keeping the facial expressions and gestures of their "mirror"	88
9	"Talk show"	The "Talk show" game method is appropriate in business speech classes, in particular, when studying the topic "Types of business communication". This type of work involves conducting a structured discussion. This format gives students the opportunity to control the conduct of the process, evaluate each student, develop public speaking skills, and learn the rules of constructive criticism, negotiations, and discussion (Onyshchenko, 2021, p. 264). The audience is evaluated and prepared according to the principle of the studio, a separate role is given to experts who ask questions, which they prepare in advance. The rules of the talk show are announced, and in the end the results are summed up	79
10	"Quest"	It is rather effective game technique. It is appropriate in almost every philology class. This technique is "a modified form of the well-known game technique «Station Express»" (Onyshchenko, 2021, p. 265). The essence of this method is to perform the assigned tasks quickly and effectively. The content of the quest can be diverse: from virtual games, tourist virtual competitions to costumed productions and intellectual battles. The main advantage of this game is an exciting and interesting nature of the game, besides, the players are in motion	74

Source: author development.

We have listed the most effective game techniques that we used in the work process, studying and checking their effectiveness. It was noted that in groups where work was diluted with game elements, the learning process was livelier, more interesting; the motivation of the students increased, the desire to get involved in the work, the improvement of creative qualities, memory and thinking was observed. In addition, the most important thing is that the indicator of the level of communication increased. The use of game techniques and methods in the student classroom opens up new and universal opportunities for the implementation of the educational process. Students begin to "taste" the practice of professional activity, learn to catch the challenges of the modern age, and adequately prepare the part of creative work assigned to each of them.
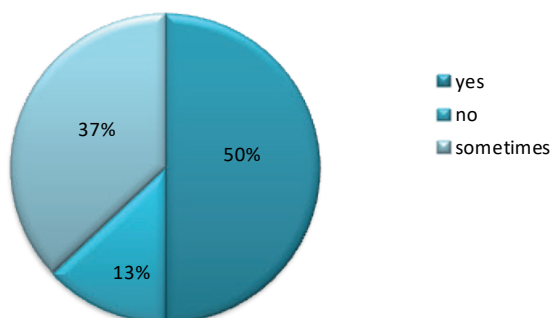
In addition to the actual introduction of game techniques into educational practice, students were asked to take a survey about their vision of the game during their studies. 220 respondents of Zhytomyr Polytechnic took part in the survey. 90 of them were students of the first year of study, 100 were second-year students, and 30 were students of the third year of study. The research was conducted on the basis of the Google Forms platform. Respondents were asked control questions:

1. Do university teachers use interactive learning methods in classes?
2. Is it appropriate, in your opinion, to use elements of business discussion in lectures?

The students' answers to the first question were distributed. This percentage distribution made it possible to check the level of satisfaction among students regarding the use of various game technologies in classes. The diagrams clearly show whether the game methods were engaging and interesting during learning.

Figure 1

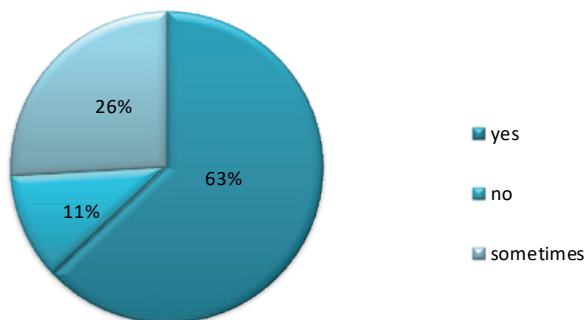*The percentage of use of game technologies by the teacher*

Source: author development.

The results of the survey of the first position show that 50% of students noted the use of interactive technologies by teachers, but this is only half. In our opinion, the latest methods should be implemented into the teaching process more actively. About 37% use the latest trends sporadically, and 13% do not practice it at all (see Fig. 1).

The students' answers to the second question were distributed as follows (see Fig. 2):

Figure 2
Educational effectiveness of the game as a method

Source: author development.

The effectiveness of the game mechanisms for the students was checked by a number of other questions, e.g., whether the use of game technologies contributes to the learning and understanding of the educational material, or during the business game, roles are distributed among the participants. Do you like the role of leader (captain)? Moreover, it was suggested to choose the type of interactive technologies that forms professional competencies most successfully, etc. The research data were distributed as follows:

After processing the answers of the students, the following picture was modeled: 75% of the students admitted that the role of leader (captain) is not difficult for them. Such an indicator shows the leadership qualities in students; 12% of students do not want to be a leader, which indicates a lack of confidence in their own abilities; 13% of students are not interested in it at all, which shows a low level of motivation.

85% of students determined that the most optimal method for the formation of professional competences is training (a business simulation game), which, in their opinion, improves the formation of practical abilities and skills in the field of the profession.

Based on the survey, it was noted that teachers actively use game innovative techniques (elements of game discussion, the game "Catch me on my mind") in

lectures: this was noted by 55% of respondents. In practical classes, 68% use a simulation game, 10% – work in "Mirror" groups, 15% – "brainstorming", "forecasting"; 7% – "microphone").

CONCLUSIONS AND PERSPECTIVES OF THE RESEARCH

The use of interactive learning technologies, in particular game elements, changes and varies, depending on the course of study, specialty and communicative readiness of the students. It is clear that the use of interactive technologies is relevant for teaching the disciplines of the philological cycle, because students have higher indicators of the formation of communicative skills.

Comparing the success of those groups where game practices diluted the educational process with the contingent of students who did not use game technologies in their work, it is worth noting that the indicator is clearly higher. Regardless of the work format (lecture, laboratory or seminar; online or offline), any monotonous theoretical work will be more effective if game elements are included into it. In the future, it would be interesting to study the experience of foreign linguists and their use of game content in language and literature classes. Today's realities dictate that a modern philologist teacher should be flexible in choosing methods and work forms, conduct classes creatively, therefore learning becomes an exciting and at the same time interesting continuous process.

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Summary

The article describes the effectiveness of mechanisms for the practical use of game technologies, namely the principles of their implementation in modern Higher Education Institutions (HEIs). In connection with today's challenges, the question of optimization, innovation and availability of knowledge remains extremely relevant. A number of changes in the reform of the higher education system require an ever-increasing search for such educational forms and methods that would contribute to the formation of professional competences, communicative abilities and skills, general cultural and socially important principles. Selecting original techniques that would be effective for comprehensive training of linguists is equally important. On the basis of the process of teaching the disciplines of the philological cycle to the students of the Zhytomyr Polytechnic State University, the effectiveness of the use of game technologies in the process of training future specialists and their direct use of game techniques during practice was assessed. The method of pedagogical observation in combination with a Google Form survey enabled the analysis of the functional significance of game elements in classes on the disciplines of the philological cycle, proving the effectiveness of games as a sensory tool.